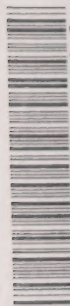


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ROYAL COMMISSION OF INQUIRY INTO CERTAIN
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND
RELATED MATTERS.

Rowe: in ch.

Hearing held in Court Room 20
Court House
361 University Avenue
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamek, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence
for
July 19th, 1983

VOLUME 13

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DEATHS AT THE HOSPITAL FOR SICK CHILDREN
AND RELATED MATTERS.

Hearing held in Court Room 20,
Court House, 361 University
Avenue, Toronto, Ontario, on
Tuesday the 19th day of July,
1983.

THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner
THOMAS MILLAR - Administrator
MURRAY R. ELLIOT - Registrar

APPEARANCES:

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	Nurses' Association of Ontario
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	The Hospital for Sick Children



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APPEARANCES: (Continued)

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F.J. SHANAHAN	Counsel for Mr. & Mrs. Dominic Lombardo (parents of deceased child Stephanie Lombardo); and Heather Dawson (mother of deceased child Amber Dawson)

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/BB/ak

---Upon commencing at 10:00 a.m.

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THE COMMISSIONER: Yes, Mr. Lamek.

4

MR. LAMEK: Thank you, Mr. Commissioner.

5

Dr. Rowe, please.

6

DR. RICHARD DESMOND ROWE, Resumed

7

DIRECT EXAMINATION BY MR. LAMEK: (Continued)

8

MR. LAMEK: Mr. Commissioner, the

9

last of the medical records that was marked as an
exhibit was that of McKeil, which was Exhibit 62.

10

I propose first with Dr. Rowe this

11

morning to have him identify and then to offer as

12

exhibits the medical records for Adamo, Lukes,

13

Onofre, MacDonald and Gosselin. I'm afraid,

14

Mr. Commissioner, I don't as of this moment have

15

sufficient copies of all of those charts for all

16

counsel but the balance of the copies will be here

17

at lunch time, I gather, and if they are marked as

18

exhibits they can immediately be picked up by counsel.

19

So, I wonder if I can do that first, Mr. Commissioner.

20

THE COMMISSIONER: Yes.

21

MR. LAMEK: Q. Dr. Rowe, I am

22

showing to you what I understand to be a copy of

23

the Hospital's record on Antonio Adamo, and I wonder

24

if you can identify that for me, please.

25

A. Yes, that's his record.



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Q. Thank you. May that be the next exhibit, please, Mr. Commissioner.

THE COMMISSIONER: Exhibit 68.

---EXHIBIT NO. 68: Medical Records of Antonio Adamo.

MR. LAMEK: Q. And now, Dr. Rowe, a copy of the Hospital record for Matthew Lutes. Can you identify that, please.

A. That is the record of Matthew Lutes.

Q. Thank you. Exhibit 69, Mr. Commissioner.

THE COMMISSIONER: Exhibit 69.

---EXHIBIT NO. 69: Medical Records of Matthew Lutes.

MR. LAMEK: Q. And then next, Dr. Rowe, the Hospital record of John Onofre.

A. Yes, that is the record of John Onofre.

Q. Thank you. No. 70, please.

---EXHIBIT NO. 70: Medical Records of John Onofre.

MR. LAMEK: Q. Next, Dr. Rowe, the Hospital record of D'Arcy MacDonald.



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A. Yes, that is the record of
D'Arcy MacDonald.

MR. LAMEK: Thank you. No. 71,
please, Mr. Commissioner.

THE COMMISSIONER: Exhibit 71.

---EXHIBIT NO. 71: Medical Records of D'Arcy
MacDonald.

MR. LAMEK: Q. And while that is
being marked, Doctor, I'm showing you a copy of the
record of Real Gosselin and ask you to identify that,
please.

A. Yes, that is the record of
Real Gosselin.

MR. LAMEK: Thank you. May that be
72, please.

THE COMMISSIONER: Exhibit 72.

---EXHIBIT NO. 72: Medical Records of Real
Gosselin.

MR. LAMEK: Q. Now, Dr. Rowe,
continuing with the list of deaths which was reviewed
for the meeting in January of 1981. We go next in
order of time to the case of Lillian Hoos, and I
believe you have a copy of that record before you?

A. Yes, I do.



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Q. Now, Doctor, the death of this baby was, in your January 12th, 1981 list, classified as "not expected", and we understand the definition of that term for that purpose.

There is behind you to your right a diagram of the heart of Lillian Hoos and I ask please if you would be good enough to tell me first if that accurately sets out the heart of that child as it appears from the chart?

A. Yes, it does.

MR. LAMEK: May that be the next exhibit, please, Mr. Commissioner, Exhibit 73.

THE COMMISSIONER: Exhibit 73.

---EXHIBIT NO. 73: Heart Diagram of Lillian Hoos.

MR. LAMEK: Q. Now, Doctor, would you please describe the anatomy of that heart and, in particular, the defects or abnormalities that appear in it?

A. This baby has a condition that is called pulmonary atresia, meaning that the valve of the pulmonary artery is completely precluded and a hypoplastic right ventricle, meaning that the right ventricle, instead of being the normal size as is shown on the diagram to your left, is of much



1
2 reduced size.

3 In that situation there are several
4 important upsets in the circulation, but the course
5 of the circulation is such that while some blood may
6 get in through this right sided chamber, it cannot
7 get out to the lungs through the usual route of the
8 pulmonary artery from the right ventricle.

9 So that in effect, this tiny little
10 chamber is not performing any useful work and yet
11 it can create hugely high pressures. This is, as
12 you will recall, the right side is supposed to be
13 a side that slurps blood out to the lung with low
14 pressure and in this situation, the pressure in this
15 very tiny little ventricle may be above that obtained
16 in the aorta, the left side of the heart, and it
17 was in this particular case as well.

18 That means that blood can be forced
19 back into the coronary arteries from this chamber
20 and passed all the way back, backwards into the
21 root of the aorta. It therefore has a compromising
22 effect on the left heart as well as the right because
23 it interferes with the blood supply of the coronary
24 arteries indirectly.

25 The blue blood coming into the heart
not being able to get out to the lungs has to go



1
2 somewhere and it passes through the foramen ovale.
3 at the top there you see the gap at the atrial
4 septal level and that is an atrial communication
5 foramen ovale and that remains open so that the blood
6 can get across to the left heart.

7 It then gets up through the left
8 heart and then goes into the aorta in the usual way,
9 but of course there is no way for it to get to the
10 lungs once the ductus arteriosus is shut.

11 Now, in this particular case, that
12 particular diagram doesn't show a ductus and I'm
13 not quite sure whether it was considered this baby
14 didn't have a ductus, but I think that's unlikely.

15 But in any event, the only other way
16 for blood to get to the lung is surgical therapy
17 which makes an artificial ductus.

18 In this particular baby that was done
19 by means of what is called a Waterston shunt,
20 W-a-t-e-r-s-t-o-n, named after an English surgeon
21 who devised the operation, which is the back of the
22 aorta, the back wall of the aorta where you see the
23 dotted circle is joined to the right pulmonary
24 artery.

25 This is an operation that carries,
a condition at least that carries a high mortality.



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The long term outlook for this baby is really very,
very poor, although one cannot always predict which
baby might do better than another.



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Basically it is a very severe malformation because the right side of the heart is so small and in effect you have a single pumping chamber to the heart with the curious physiology which is going on in that tiny little ventricle which hampers the blood supply, in part, to the other side.

Q. Dr. Rowe, thank you. Could you tell me please why in classifying the deaths for the purposes of the January 12, 1981 meeting you classified this one as "unexpected"?

A. I think because this is the type of malformation that we would still struggle with and we hoped that we would have got this baby a little further than she did.

Q. Now the child, as I understand it, was born at the North York General Hospital and the course followed by the child at the Hospital for Sick Children is I think reasonably summarized in the discharge or death report at page 24 of the chart. The baby apparently was cyanosed at birth. I take it that means bluish?

A. Yes.

Q. And is that indicative of insignificant oxygenation of the blood?

A. Yes, it is.



B.2

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Q And is that in turn indicative
of a cardiovascular problem of some kind?

4

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A It usually is but it may be
due to troubles in the lung alone.

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Q In any event, this baby was
transferred to the Hospital for Sick Children on the
day of her birth, as I understand it?

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A Yes.

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Q And on the 17th, the day
following her admission to the Hospital, underwent
cardiac catheterization. That is referred to in the
fourth paragraph from the bottom of page 24 of the
Hospital record and there is reference to balloon
septostomies.

15

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Can you tell me, please, what is a
balloon septostomy?

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A A balloon septostomy is a
technique which is undertaken at the time of cardiac
catheterization for certain malformations of the
heart where it is important to enlarge the foramen
ovale or natural trapdoor that sits in the atrial
septum. The catheter is passed through that trapdoor
and then inflated with contrast material that will
show up on X-ray. There is a balloon attached to the
catheter in such a way that when one injects this



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material one can see the balloon inflate. It is not air, it is solid material, but it shows up radiologically with this contrast material. When it gets to a certain size, the catheter, which looks as though it has got a rather large cherry on the end of it as a result, is pulled back very rapidly across the trapdoor to fracture the trapdoor. The purpose of the manoeuvre is to enlarge the opening so as to allow better mixing.

Q. The other reference in that same paragraph, fourth from the bottom on page 24, Doctor, that I would be grateful for your explanation of, the reference to the angiographic study. What is the angiographic study?

A. The angiographic study is the injection through the catheter of contrast materials. It is an iodine containing compound that shows up opaque on an X-ray, something in the same way that barium shows up on an X-ray, but this material is material that is a fluid injected into different parts of the heart to demonstrate the anatomy of the different sections that have been considered and likely, in this case, there would be injections in the right ventricle, and injections in the left ventricle. That shows up the anatomy with considerable detail, movie pictures are taken after



B.4

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the injection for the next 10 seconds or so and the
information is videotaped as well.

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Q Doctor, thank you. I take it
that the investigation by catheterization disclosed
the defects that you described on the diagram a little
earlier?

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A Yes, it did.

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Q Did it disclose all of them
or were some of them discovered later, at autopsy?

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A I would have to look at the
catheterization report. I have it now. It is on
page 103. I believe that must have shown everything
that was revealed in the autopsy except-insofar as
the gross anatomy of the heart is concerned.

23

24

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Q The autopsy report is on page 26.

A The only feature that I can see
there that is additional to what we have mentioned
is that the tricuspid valve is referred to at 1(b)
and the anatomic diagnosis has been tricuspid stenosis.
The tricuspid valve in this malformation is reduced
in size and matches the size of the right ventricle
so it is always stenotic. There are additional
conditions reported there that of course were not
present at the time of the catheterization.

Q Such as the shunt itself?



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A. The shunt and the chylothorax and other things.

Q. The baby, I take it, was seen as a candidate for surgery?

A. Yes.

Q. And on July 18 as the discharge note reports, on page 24, went to the OR where there was performed the Waterston shunt that you described for us a few moments ago.

Doctor, is that what you called last week palliative surgery?

A. Yes.

Q. Is the expectation that perhaps at a later date there may be other surgery undertaken to correct the defect?

A. There is very little chance of correcting this defect back to completely normal state because of the diminutive size of the right ventricle, but it would be correct to say that there would be anticipation of attempts to try to improve the palliation at any rate further.

Q. Again the discharge note refers to the postoperative course and summary. It said it was complicated by a right auxiliary area hematoma with probable underlying fat necrosis, believed



B.6

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secondary to a chest tube. Would you explain that,
please, Doctor?

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A. I am not exactly sure what that
involves. I think we would have to get a surgical
report on exactly what happened there but I believe
that it was thought that the effects were of
secondary to some displacement of the tube.

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Q. It reports that the child was
left with a residual, hemiparesis of his right arm,
with probably anaesthesia, as well.

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Is that a measure of paralysis of
the arm?

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A.

Yes.



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Q. The child it says was transferred to the Intensive Care Unit on the Cardiology floor on the 23rd of July, 1980. I had not understood there to be such a unit on the Cardiology floor, Doctor?

A. There wasn't.

Q. There wasn't at that time. So the reference to the unit being on the Cardiology floor is presumably an error?

A. I think so.

Q. The child presumably went in the normal way to the ICU from the OR?

A. Yes.

Q. Although the reference on July the 23rd, the transfer, that was the time when she was transferred from the ICU to the ward?

A. Yes.

In fact that is a concertina summary is it not, the child's transfer to the ICU immediately after surgery and then to the Cardiology floor on July the 23rd?

A. I would think since there was reference to the postoperative course after the operative note, I would think what that was meant to say was the child was transferred from the Intensive



C.2

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Care Unit to the Cardiology floor.

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Q. Yes.

4

A. On the 23rd of July.

5

Q. Yes.

6

A. It is just a transcription error.

7

Q. And it reports the course of the

8

child: indicated female, complicated by some sub-segmental atelectasis which was improved with physio-

9

therapy. Can you explain that to us, please, Doctor?

10

A. Yes.

11

Q. The subsegmental atelectasis?

12

A. Yes. Well, I can't explain

13

clearly whether he means that was in the ICU or on the floor, but I expect that information is available.

14

Q. I am just asking you please if

15

you could define the language for us. You told us

16

last week that atelectasis was collapse in the case

17

of the lung?

18

A. Yes.

19

Q. What does subsegmental mean?

20

A. I am not sure what he means.

21

Segmental means part of the lung was collapsed not all of it. Some people refer to it in detail and

22

others just say it is atelectasis.

23

Q. All right, thank you. Incidentally,

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C.3

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you don't need to turn to this, Doctor, but page 54 in the progress notes in the record does indicate that indeed the admission to the Cardiology floor was on July 23rd, 1980.

Okay. On page 25 of the report of episodes of congestive heart failure, presumably after return to the ward, which seemed to improve with diuretics. She was on digoxin throughout the period. Respiratory rate increased on July 29th and episodes of apnea and antibiotics were started, were they not?

A. Yes.

Q. The end of the month, July 31st, 1980, child became suddenly bradycardiac and suffered what is called frank respiratory cardiac arrest, and that is a word we have not noticed in any of these records before, Doctor, to describe the arrest, "frank", what does that convey to you?

A. I don't know what he means by that. I don't think you can suffer it any other way.

Q. I am not quite sure what it means. I wonder if it would have some use in the term of art of any kind?

A. No, I don't think so.

THE COMMISSIONER: I have a suspicion, and maybe I am wrong, that this was dictated and not



C.4

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read. Do you think "frank" could have stood for
some other word?

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THE WITNESS: Unless there was some
episode earlier that she threatened arrest, or slowed
down or something like that, she did.

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MR. LAMEK: Q. Yes. Doctor, we will
look at the chart in some detail in a minute and see
if there is anything of that sort. At the moment we
are all puzzled by the use of the word "frank" to
describe the cardiorespiratory arrest that occurred.
There is reference then to a protracted attempt at
resuscitation. The child continued to be bradycardiac
and was pronounced dead at 3:27, July 31st, 1980.

14

A. Yes.

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Q. Now before going to the rest
of the chart, Doctor, could you turn with me please
to page 26 which is the final autopsy report. Is
there anything in that report; let me rephrase that
question. What in that report do you see of
significance with respect to the explanation for the
death at the time and the manner of death of Lillian
Hoos?

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A. Well firstly an anatomic diagnosis
is confirmed and that is a serious, obviously a
serious malformation which can contribute to death.



C.5

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Q Yes.

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A Then the presence of chylothorax

4

is something that I see there, which involves the

5

right pleural cavity and the pericardial cavity, the

6

sac in which the heart sits itself. So it was

7

obviously fairly extensive, I would think from

8

that indication. Then there is collapse of right

9

and left lungs.

10

Q Could I ask you to pause there

11

for a moment, Doctor, please. That is the final

12

autopsy report, and if you will turn to page 29 you

13

will see the preliminary autopsy report, where the

14

apparently corresponding finding is collapsed right

15

lung?

A Yes.

16

Q Which appears between that date

17

and the final autopsy report, the pathologist reported

18

a collapse of both lungs. Is not the state of the

19

lungs a matter of gross anatomy that is usually pretty

20

obvious from the beginning?

A Yes, it is usually. There may

21

be, I don't know whether the pathologist since he

22

doesn't identify the extent of the collapse in either

23

lung when he talks in the final report, it may be

24

that much of the other was, or could be some of the

25



C.6

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other report stems from the findings at the micro-
scopic examination but I don't know, you would have
to ask him about that.

5

6

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Q. There appears to be some
question as to the extent of lung collapse as between
the two reports, does there not?

8

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12

A. Yes.

Q. I am sorry, I interrupted you
and you were pointing out matters of significance in
the final autopsy report, going to an explanation of
the death of this child at the time and in the manner
in which she dies.

13

14

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16

17

A. The chylothorax and the collapse,
and the chylopericardium were the only additional
features. The passive congestion of the liver is
simply a sign of the congestive failure. I don't
think any of the other matters are directly of
importance in the outcome.

18

19

Q. Thank you. The child died then
11 or 12 days after surgery?

20

21

22

23

24

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A. Yes.

Q. And after having been back on
the Cardiology Ward, 7 or 8 days, returned on the 23rd
and died in the early morning of the 31st, 7 days.

Could I ask you please to turn to page



C.7

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53 of the chart which is part of the progress notes
and indeed is the transfer note from the ICU to the
ward.

THE COMMISSIONER: Did you say 53?

MR. LAMEK: 53, yes.



D/BB/ak

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2
3 THE COMMISSIONER: My copy goes
4 from 41 to 65.

5 MR. LAMEK: Mr. Commissioner, you
6 have been cheated. Do we have another copy of the
7 Hoos?

8 MR. SOPINKA: You can have mine,
9 I don't understand this stuff anyway.

10 THE COMMISSIONER: Wait a minute.
11 No, I'm not at all sure. I might, it just goes
12 backwards, that's all. No, it's all right, you
13 hang on to yours. I think I can master this okay.
14 55?

15 MR. LAMEK: 53, Mr. Commissioner.

16 THE COMMISSIONER: 53 is just after
17 55.

18 MR. LAMEK: As God intended it to be.

19 Q. The transfer note of July
20 23rd says, if I read it outright, Doctor:

21 "Now 7 days old, case of pulmonary
22 atresia had Waterston shunt, had some
23 problems post-op. Now she is okay.
24 Excubated yesterday. Her PO₂ today
25 on room air is 37..."
and what does that say "...and is stable"?

A. "...and is stable", I think



1

2

that reads.

3

Q. "She is on digoxin."

4

5

6

7

And it goes on with notes on the cardiac status, respiratory status and on the next page integument status. What is the integument status, please?

8

A. Where is that?

9

Q. Page 54.

10

A. Page 54. That's written by a nurse, I don't understand it.

11

Q. You don't understand it!

12

A. I don't know what that means.

13

14

Well, maybe - I don't know if she is referring to the chest problem, the chest wall problem, I don't know.

15

16

17

18

Q. Well, in any event, Doctor, does it appear that some five days after surgery, after five days on the ICU, Baby Hoos appeared to be in a relatively stable condition?

19

20

A. Yes, that does seem to be the case.

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25

Q. Now, could we trace our course please following her return to the ward then on July 23rd, and perhaps you would like to take a moment to look over the Hospital record and tell me



1
2
3 if there is anything that you see in that record to
4 suggest that this baby during that week appeared to
be at risk of imminent death?

5 A. On the 25th of July?

6 Q. Yes.

7 A. There is a note on page 58
8 to say that "Aldactazide was started today".

9 Q. Yes.

10 A. That would have to mean the
11 degree of heart failure had increased, although,
12 there is not a great deal to suggest, on the doctor's
13 note who wrote that one line there, but there is
14 some indication from Miss MacIntosh, at the bottom
15 of page 57, the Registered Nurse, that the rate, the
16 respiratory rate had increased from 56 to 90 and
becomes quite tachypnea with feeds.

17 Q. Yes.

18 A. So, I would think that a
19 determination was made with the physicians at that
20 point that perhaps the heart failure had increased.
21 At least I'm reading between the lines but I think
that is not an unreasonable conclusion.

22 Q. Certainly there was a measure
23 of congestive heart failure that needed to be
24 controlled?
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A. Yes.

Q. Yes. The pattern of increased respiratory rate with feeding seems to run through the week, does it not? It appears on the 26th on page 60.

A. Yes.

Q. On page 59 also.

A. Yes. But on page 58 it says the vital signs, a little over half way down that page of the nursing note, it says that the breathing is rapid and shallow, the respirations have ranged from 52 to 88 and there are adventitious chest sounds in all lobes.

So, I think that means there are continuing lung problems with this baby.

Q. Yes.

A. So, there is evidence there of some change in the cardiac status and perhaps even there that the lung issues a collapse and so on is important.

Let's see, I think the next note of any major change is on the 28th of July and there's a note by a resident.

Q. Yes.

A. I suppose that might be the



1

2

resident who wrote the final note.

3

4

Q. I'm sorry, which page are
you looking at there, Doctor?

5

A. Page 61.

6

7

Q. Yes. And what in particular
are you addressing?

8

A. Well, he could hear no
continuous murmur.

9

10

Q. And therefore questioned
whether the shunt was patent, I take it?

11

12

A. Wondered about the shunt.
He says possibly closing off the Waterston.

13

Q. Yes.

14

15

A. The PO_2 , or amount of oxygen
is a little bit against that possibility. The other
question might be whether the shunt was too big.

16

17

Q. Yes.

18

19

A. Under the conditions of too
large a shunt the murmur will disappear and the
oxygen will tend to rise a bit.

20

21

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So, I think they had that dilemma, if
I recall, in the Intensive Care Unit and they had
to put this baby on prostaglandins at one stage
after the operation because they weren't sure whether
this same sort of event was caused by too small or



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too big a shunt.

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But I think there the resident was obviously a bit concerned about things and wrote down a series of orders and obviously wanted the baby followed very closely.

7

8

10

Q. The same question is raised, is it not, on the 29th at the foot of page 62 of the record, impression that the congestive heart failure is increased and the question as to whether the shunt function has decreased?

11

12

13

14

A. Yes, there was a question on the 29th I think by the Cardiac Fellow that there might be not only increased failure but there might be some question of infraction.

15

16

17

18

Q. Yes.

A. So, it was obviously a difficult problem to sort out completely and I think there was an air of concern I think about the way things were being recorded there.

19

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Q. Well, understood, Doctor, and as you have said this was a sick child, but do I read this record perhaps too simple-mindedly, it does not appear to me, although the various matters are raised, to be any expression of immediate concern that this child is about to die?



D7

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A. No, there is no record of that there. I think there is an obvious change in the baby's condition that warrants changing the therapy.

Q. Yes. Well, change of therapy and closer watching, I think that is fair as well, is it not, because it will appear that the baby was on a monitor at the time he died.

Indeed, on July the 29th, does not the chart record that constant care was ordered for this child?

I'm sorry, I have a note of that but cannot now find it.

A. I think that you may be referring to Page 61 at the bottom on the 28th.

Q. What, in close observation?

A. Hourly pulse and respirations. I don't know if that is what you are referring to.

Q. No, I will find the note I'm sure.

Well, I will find it and come back to it later, I don't want to take the time now.

A. All right.

THE COMMISSIONER: On page 61, that's not the one you're referring to?



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MR. LAMEK: No, I think not, Mr. Commissioner. My note says that on July 29 - I'm sorry, you will find that in the Doctor's Orders at page 120. Forgive me, no wonder I couldn't find it there.

Q. Page 120, the orders under the date of 29/7/80 from the previous page are "Constant care and apneic monitor".

A. Yes.

Q. Except that, Doctor, those orders manifest a measure of concern that this baby be kept under close observation.

A. I think they manifest a major concern.

Q. Yes. But they also manifest, do they not, the availability of (a) monitoring and (b) one on one nursing care on the ward?

A. At that time.

Q. Yes.

We go to page 67, the note under date July 30 appears again to be a physician's note, does it not? It's the same name that appears on the order on page 120.

A. Yes.

Q. But I cannot now read it.



1

2

A. Yes.

3

Q. With respect to congestive

4

heart failure it is recorded that the child is

5

still being sick with shf.

6

A. I would read it that way, yes.

7

Q. All right. Noises in the

8

chest and the liver is 2 centimetres below the

9

costal margin. Now, I can't read the next line -

10

oh, chest x-ray from July 30th looks better with

11

fluids in left diagram. Is that some atelectasis?

12

It looks that way.

13

A. Yes.

14

Q. Okay. Not an indication I

suggest of further decline is there, Doctor?

15

A. I don't know quite what you

16

mean by that question. You mean compared to the

17

day before or something like that?

18

Q. Yes, the day before the child

19

had been thought to be needing close care and

20

monitoring, and no doubt that continued, but never-

21

theless, the note on the 30th does not, as I read

22

it in any event, and I appreciate your help, indicate

23

the child is continuing to get more seriously sick

24

or ill?

25



/DP/ak

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3

A. No, but I do not think she is getting any better.

4

5

Q. Certainly the chest x-rays looks better, as it is reported.

6

A. Well, that might be so.

7

8

Q. We will look then at page 69 to 71 which is the arrest note and the pre-arrest nursing note.

9

10

11

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13

Could we start with the pre-arrest nursing note at the foot of page 70 because although it follows it on the sheet it in fact refers, does it not, to a period beginning at 7:00 p.m. on July 30th and running until 2:30 a.m. on the 31st?

14

A. Yes, it does.

15

16

Q. And Nurse Nelles there, who you have already told me last week was an experienced nurse, records:

17

18

19

20

21

" - all vital signs relatively stable
- apex 125-142 and regular
- respirations 49-67 and easy
- no tugging or signs of respiratory distress noted.

22

23

24

25

Colour: very mottled at times, -
went quite off - colours when upset,
even in 40 per cent oxygen.



1

2

- Chest - air entry to all lobes

3

- slightly noisy in upper lobes"

4

What is that - the calcium burn is it

5

not?

6

It goes on to Intake.

7

"Output - voiding satisfactory amounts"

8

Does it not appear, Doctor, from

9

that nursing note for that 7½-hour period before

10

the arrest that Nurse Nelles at least appeared to

see nothing that caused concern?

11

A. No.

12

Q. Basically appeared to be

13

stable?

14

A. Yes, that does appear to be

15

the case.

16

Q. No difficulty in breathing,

17

nothing of that sort in that report at least.

18

"Babe appeared to be going off colour.

19

No respirations noted, although

20

apneic monitor did not go off.

21

Stimulated and seemed to respond.

22

23 "

23

That I take it is a Code 23.

24

" Put in for Dr. Rutherford. Babe

25



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"again appeared in respiratory distress.
Apical rate dropped to approximately
40. Code 25. Cardio pulmonary
resuscitation initiated."

It then refers us to Dr. Costigan's
note.

So it appears that until 2:30 there
was the stable picture that is recorded in the
preceding note, and at 2:40 this child suddenly
appeared to have difficulty breathing and his heart
rate dropped substantially, did it not?

A. Yes.

Q. If we go back to the arrest
note at page 70, Dr. Costigan's note, 2:50 -

"Called '25' to 4A/B."

Described the child with pulmonary atresia hypoplastic
right ventricle and so on.

"Had Waterston shunt in place.

? Blocked for last two days at least.

Awaiting re-op OR decision."

Is that it?

A. It looks like that.

Q. Then he goes on to record
what he found when he arrived there.

"Bradycardia of 90-100. P waves were



1

2

present.

3

Very darkly cyanosed. Receiving

4

oxygen by mask. Air entry seemed to

5

be okay."

6

He records the steps that he took

7

to try to revive the child.

8

A. Yes.

9

Q. He goes on, towards the

bottom of the note:

10

"Progressive Bradycardia. Unresponsive

11

to all drugs."

12

I cannot read the next line, I'm afraid - response

13

to pain and something to light.

14

A. Response to pain and pupils

to light.

15

Q. Pupils to light, that would be

16

it, for the first 15 to 20 minutes. Cardiology

17

Fellow was advising from the first few minutes on.

18

Dr. Olley notified and advised to stop after 30

19

minutes. Cardiovascular surgery resident also.

20

After 45 minutes complete lack of any

21

heart activity, resuscitation was stopped and child

22

was pronounced dead.

23

Did I accurately read what

24

Dr. Costigan has noted?

25



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A. Yes.

Q. And the Cardiology Fellow's note appears to be on page 69, written at 3:45 in the morning:

"Resuscitation as per Dr. Costigan's note. Complete cardiac failure i.e. no pulse or blood pressure detectable despite all measures taken. Decision to discontinue resuscitation conferred with Dr. P. Olley."

Finally Dr. Rutherford's note, Senior Medical Resident, also written at 3:45 in the morning.

"Called for cardiopulmonary arrest. Progressive bradycardia despite intensive attempts as resuscitation as outlined by Dr. Costigan. Child pronounced dead 3:22."

Does that not appear, Doctor, to be an onset of terminal symptoms and a rapid course of terminal symptoms such as we have seen in a number of the other deaths that we have considered?

A. Yes.

Q. Could we look for a moment please, at some of the Doctor's Orders with respect to this child? Go to page 117, the orders for July



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22, the seventh order for that day is to start oral digoxin, a small dose of 0.01 milligrams, is that, twice a day?

A. This is the 23rd?

Q. The 22nd, at the top of page 117. Indeed, the orders for the 22nd appear to start at the bottom of page 116 and go over onto 117.

A. Yes.

Q. Start - is that oral digoxin, .01 milligrams twice a day either by mouth or by nasal gastric tube?

A. Yes.

Q. On the 23rd the order is to take blood for lyte, Bun and dig level.

If we turn to page 133, Doctor, it is recorded there in a sample taken on July 24, a level of 0.7 nanograms of digoxin per millilitre was found.

A. Yes.

Q. The digoxin is ordered continued on the 23rd. On the 28th, the top of page 119, the digoxin level is ordered in the morning and the order is to do vital signs every hour overnight and Doctor, that level is found on page 134,



1

2

the level on July 29 of 1.7 nanograms per millilitre.

3

Do I have that correctly?

4

A. Yes.

5

Q. On July 29th, page 120, the

6

order that we have already observed that constant

7

care is to be provided, the child to be put on an

8

apneic monitor.

9

So we have treatment of congestive

10

heart failure, as I understand it, and close watch

11

being kept on digoxin levels. We have orders to

12

keep the child under the highest level of care and

13

observation that is possible on the ward, I take it.

14

Doctor, in your review of this chart,

15

what did you conclude with respect to the cause of
Lillian Hoos' death?

16

A. Well, I would have seen this

17

chart after - I mean, I would have seen the details

18

after the report at the conference - the morning

19

conference. I was not the physician on record.

20

Q. No, I understand.

21

A. And reporting to that would

22

be I think Dr. Izukawa. Later in the sort of review

23

that we do in more detail as was conducted I think

24

at the Cardiac Pathology Conference for this baby

25

in, I think September, I'm not sure when, the picture



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was rounded out fully by the post mortem finding,
and of course the day afterwards, but the interpreta-
tion there I would make of the course here was
that this deterioration was indeed sudden at the end.
There was some evidence that the baby was having
increasing congestive failure and the respiratory
rate was up. The failure was somewhat worse, and
I would have thought that the combination of the
severe heart malformation plus the additional
respiratory difficulty, from whatever cause, could
account for the death.

Q. Did you at the time form the
opinion that it did account for the death?

A. Yes.

Q. Doctor, as I understand it,
you considered this chart, and I do not mean by that
reviewed it in detail, but considered it on a
number of occasions. There would have been a
discussion of it, as you say, the morning following
the death, in the normal - and cardiology meeting,
would there not?

A. There would be discussion
of the patient.

Q. Yes.

A. They would not have the chart.



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Q. No, but there would be discussion of the patient and the course that she had followed to the time of her death.

A. Yes.

Q. Then I take it, in making the selection of the cases to be reviewed in the two Mortality and Morbidity Conferences to be held in September you would again have given some consideration to Lillian Hoos as to whether she should be included?

A. Yes.

Q. Then, you just told us about the Pathology Conference.

A. Yes.

Q. Of which this was one of the deaths that was considered.

A. Yes.

Q. And you would have reviewed the chart at that time?

A. Yes. That would have been done in great detail then.

Q. I take it that finally in preparing the classification of these children for the January 12, 1981 meeting your mind would again have been addressed to this child?



1

2

A. Yes.

3

Q. And on each of those occasions,

4

do I take it, that it was your view that the
5 anatomical condition of this child and her clinical
6 course not only were capable of explaining but did
7 explain her death?

8

A. Yes, we thought so.

9

Q. Doctor, I ask you the
10 question about this child that I have asked you
11 about a number of others. In considering the
12 terminal events and the suddenness of their onslaught
13 and the rapidity of their course, was this child's
14 manner of dying also consistent with digoxin
15 intoxication?

15

A. Yes.

16

Q. Did that occur to you at
17 any of the times that you reviewed this chart?

17

A. No.

18

Q. From the time of the death
19 until January?

20

A. No.

21

Q. Did any other cardiologist
22 or Cardiac Fellow raise any question with respect
23 to the cause of death of Lillian Hoos?

23

A. I do not believe so.

24

Q. Let us move on then to the
25 next child.

25



DM:jc
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Q Dr. Rowe, the next case chronologically is that of Brian Gage. He as I understand it was a neonatal transfer for the Milton General Hospital, born August 27th, 1980 and admitted to the Hospital for Sick Children on September the 5th.

The referring hospital's note is contained on page 11 of the Hospital for Sick Children record. From that it appears, does it not, that the baby on the date of referral is described as having tachypnea cyanosis, systolic murmur with an enlarged heart on chest X-ray. The gross finding is that this baby has a transposition of the great arteries, and has been transferred to the Hospital for Sick Children for further investigation. Those were the findings and preliminary diagnosis from the Milton District Hospital?

A. Yes.

Q Behind you, Doctor, there is a diagram of the heart of Brian Gage. Can you tell me first whether from your reading of the chart it accurately depicts the heart of that baby?

A. Yes, it does.

MR. LAMEK: Could that be the next exhibit please, Mr. Commissioner?

--- EXHIBIT NO. 74: Heart diagram of Brian Gage.



F.2

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MR. LAMEK: Q Would you, Dr. Rowe,
please describe the defects and deformities that
appear in that heart?

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A. This boy has a condition which
is known as complete transposition of the great
arteries. That simply means that the great vessels
that leave the heart, the pulmonary artery which
normally comes off the right side, and the aorta which
normally comes off the left, are completely transposed
or switched around. So that now the aorta arises from
the right ventricle and the pulmonary artery arises
from the left. So it is a complete transposition of
the great vessels.

14

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18

The rest of the heart structure in
this particular baby is relatively normal. Some
babies with transposition have additional abnormalities,
but in particular this baby had a ventricular septum
dividing the two ventricles which was intact, there
were no holes there.

19

20

21

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25

The only additional point is that the
two fetal channels, the patent foramen ovale, which is
at atrial level, this little trapdoor here (indicating),
and the ductus which I can't quite reach, which is up
here connecting the aorta and the pulmonary artery
are of course patent in the usual way at the time of



F.3

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2 delivery. The course of the circulation is vastly
3 different from the normal as you can imagine from
4 this situation. The blood returning to the heart
5 through the SPVC and the IVC as you see on the
6 previous diagram and coming into the right atrium
7 passes down into the right ventricle in the usual way,
8 but then blood is distributed around the body through
9 the aorta.

10 The only blood which gets to the
11 lungs will be anything that can cross the foramen ovale
12 at this level, which is not likely to be very much,
13 and anything that can get into the lungs through the
14 ductus arteriosus, which may be more.

15 In any event blood comes back from
16 the lungs which are now expanded and is pumped out
17 into the pulmonary artery from the left pumping
18 chamber, distributed through the lung and then comes
19 back to the same side; down into the pumping chamber,
20 out to the lung again, back through the lungs, back
21 through the heart down into the pumping chamber, out
22 to the lungs, back to the heart and so on.

23 On this side blue blood comes into
24 the right side and is pumped around the body and comes
25 back to the heart again and then gets pumped around
the body again. The only portion that doesn't go on



F.4

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2 those two separate routes is what mixes at this level
3 at the atrium and through the ductus. So that before
4 very long these babies will get into trouble because
5 the ductus will shut and then they have no other means
6 of mixing except at this level in the atrium and that
7 is usually not enough. So unless you can get some
8 mixing arrangement in this type of heart the baby
9 will die of progressive lack of oxygen.

10 The oxygen tension in most of these
11 babies at the time of discovery is below 30 millimetres
12 of mercury, the normal individual runs about 90, that
13 is an extreme form of lack of oxygen in the body and
14 therefore it constitutes a major medical emergency
15 because you have to get at these babies immediately
16 and enlarge that opening here with the balloon that
17 I described before, so there is better mixing between
18 the two sides. I should perhaps add, Mr. Lamek, that
19 the procedure done with the balloon is again a
20 palliative medical procedure, that it may or may not
21 be effective, and that it is often necessary to go
22 within a short time to a surgical operation to enlarge
23 that hole. But ultimately these babies are candidates
24 for a reparative operation in which the circulations
25 are switched in one way or another back to something
resembling the normal but that cannot usually be done



F.5

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until they are somewhat older than the newborn.

3

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Q Indeed, Doctor, if I understand you are right, the atrial septal defects and the open ductus are really the only things that enable a child with that malformation to survive at all?

7

A. Yes, they are.

8

9

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11

12

13

14

Q On September the 5th, as I understand it, there was a two-dimensional echocardiogram performed which showed that indeed there was transposition of the great arteries. There was a small hole in the atrial septum, no hole in the ventricular septum, and later on that same day those findings were confirmed by cardiac catheterization, were they not?

15

A. Yes.

16

17

Q It was also disclosed at that time that the ductus arteriosus was still open?

18

A. Yes.

19

20

21

Q Now Doctor, am I right that immediately prior to catheterization this baby, Brian Gage, in the catheterization lab, became very pale, cyanotic, bradycardiac and indeed had a rather serious episode?

22

A. Yes.

23

24

Q And he was resuscitated and the procedure went ahead?

25



F.6

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A. Yes.

3

Q. Now, following the procedure

4

was it considered that this baby was in heart failure,

5

and I ask, because on page 29 of the chart at the foot

6

of the page the order seems to be digitalize the baby

7

with or without lasix as the need may arise, and that

8

is the classic treatment for congestive heart failure,

is it not?

9

A. Yes, it is.

10

Q. So I can therefore infer from

11

that that the baby was considered to be in congestive

12

heart failure?

13

A. That they were worried that that

14

may be about to develop.

15

Q. All right. Surgery was planned

16

for the 25th of September, as I understand it?

17

A. Yes.

18

Q. And what was the nature of the

surgery that was to be performed?

19

A. Well, I believe that there had

20

been several questions about the exact type of surgery,

21

but I think, my understanding of the information is

22

that the procedure would be to enlarge the atrial

23

opening that had been performed, or had been attempted

24

by the balloon method to enlarge it surgically and

25



F.7

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then to tie off, ligate the ductus arteriosus.

3

4

5

Q And the enlargement of the atrial hole that you have talked about is that what the Blalock-Hanlon procedure is?

6

7

A Yes, the operation that is known as the Blalock-Hanlon procedure, it removes the back half of the wall between the two atria.

(2)

8

9

10

Q It was proposed to do that surgery on September 25th, unfortunately the child didn't make it to the operating room, did he?

11

A No.

12

13

14

Q Because at 3:20 in the morning on September 25th he had an episode of vomiting, went into bradycardia, lowered respirations and arrest and could not be resuscitated.

15

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Doctor, I think that to be in very capsule form a summary of the child's course in the Hospital, but I don't intend of course to even try to restrict you to that. Is there anything in the chart which you regard as significant, especially with respect to an understanding of this child's death in the early hours of September the 25th?

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A Well, I think his problem was complicated by the fact that he had what was regarded as tubular nephrosis of his kidneys which was thought



P.8

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2 by the neonatologists to be related to the period when
3 he had the near arrest in the catheterization laboratory.
4 He had some problem there that actually continued
5 throughout his stay on the 7G which is the Infant,
6 the Newborn Infant Ward. In fact even just before
7 he was transferred to the Cardiac Ward I think he had
8 some abnormalities there. On the 17th he was trans-
ferred from the Newborn service to the Cardiac Ward.

9 Q I am sorry, you are referring
10 to what page in the chart, Doctor, page 54 perhaps,
11 7G transfer note on the 17th of September?

12 A I am making sure, there is a
13 note on that page about the fact that he had some
14 continuing urinary abnormalities which concerned the
neonatal people.

15 Q A third of the way down page 54
16 the note here, problem with urine output, beginning
17 with low urine, possible ATN, what is that, please?

18 A Acute tubular nephrosis is the
19 reference I think.

20 Q And required two doses of lasix
21 to start urine output and he was in diuretic phase.

22 A I think they thought he was
23 improving but then again his urinary symptoms recurred
24 and he had some blood in the urine.
25



ANGUS STONEHOUSE & CO LTD
TORONTO ONTARIO

Rowe, dr.ex.
(Lamek)

2190

F.9

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Q. Yes.

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A. And casts in the urine

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indicating there was something more important going
on.

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I am not sure whether there is some other note. I got the impression somewhere in looking at the chart here that there was perhaps some concern that this baby might have a renal vein thrombosis or a clot in the renal vein or something else to account for that problem.

But at any rate, there was a renal difficulty there and I think that was one of the factors that may have been delaying the move to surgery.

But the cardiologists have written on several occasions on the wards. I think Dr. Olley wrote a note on page 52:

"Remains in failure with signs of a big ductal shunt, losing weight."

Q. Yes.

A. "Will discuss resurgery."

The problem that confronted the physicians at that time was that they were hoping to be able to control the congestive failure better than they did as it turned out, and the reason for that was that they wanted to get this baby a little older and a little bigger so that they could do what is known as an arterial switching operation. That is an operation that repairs the malformation truly and takes the great arteries and puts them back where they should be.



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That was the alternative to the operation that eventually was planned and in order to do that the baby has to be a little bigger.

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So, I think for a while Dr. Olley and the others involved in the care thought this baby might, we might be taking advantage of the situation while the kidneys are recovering hopefully to give us a little more time to manage the heart failure. But it looks as though he's not quite so pleased about things.

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Q Dr. Rowe, at what stage do you understand the surgical sights were lowered, if you will, from repair to the palliative surgery that was in fact eventually proposed?

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A What time?

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A I'm not sure. There is a note. There is obviously a lot of notes about the congestive failure.

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Q Yes.

A I'm trying to find a note that I had seen previously written by the Fellow on the 24th.



G.3

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Q I'm glad it's not on page 59,
it wouldn't help us very much.

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A No, maybe it was before that.
It was a note anyway to the effect that the problem
continues to be one of controlling failure until
surgery can be arranged.

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Q Well, may I refer you, Doctor,
in any event, to a note on page 55. Now, that appears
to be a note by Dr. David Nelles, who is a Resident
at the Hospital.

A Yes.

Q At the foot of the page:

"Increase to maximum digoxin and
diuretics, watch urine, surgery PDA
ligation and Blalock-Hanlon."

A Yes.

Q Does that suggest that as of the
17th of September the surgery proposed was the
palliative surgery that you have described?

A Yes, that does, it does.

Q But again it is indicative, is
it not, of an attempt to control the congestive heart
failure even for the purpose of the palliative surgery
that was to be performed?

A Yes, I think so. I'm not quite



G.4

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sure what the thinking was of the cardiologist at
that particular moment.

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Q. Well, I will take it that
Dr. Nelles got his information as to what kind of
surgery was proposed from somewhere?

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A. Yes, indeed. He probably spoke
to the Fellow or somebody.

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Q. All right, Doctor, you have
referred to the heart failure and to the kidney
problem that seemed to be developing. Is there any-
thing else in the chart that in your view is of
significance with respect to understanding the course
and eventual death of this baby?

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A. I think the only thing is that
there is nothing further in the chart other than the
autopsy information and I think a letter from
Dr. Freedom.

17

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Q. That's the letter at page 13
reporting to the referring physician?

19

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A. Yes.
Q. I certainly propose to come to
that, maybe we should address it now. He reports that
the baby died suddenly.

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A. Yes.

Q. In the early hours of the morning



G.5

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of September 25th and repeats the findings and refers to the arrest that was almost sustained immediately before the catheterization. He was improved by a balloon septostomy but his progress was quite slow, indeed, it came apparent over the days just prior to his death that his systemic arterial saturation was not adequate and, indeed, he was scheduled for a ' Blalock-Hanlon atrial septectomy on the morning of September 25th. I'm sorry, was not adequate for what, for corrective surgery?

11

A. No, was not adequate ---

12

Q. Oh, just not adequate?

13

A. ... for the baby.

14

Q. For the baby and therefore had to be alleviated by the Blalock-Hanlon procedure?

15

A. Yes.

16

Q. He goes on:

17

"It is unclear as to the precise cause of death but most likely it was due to a hypoxic episode."

18

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Is that simple lack of oxygen?

20

A. Yes.

21

Q. Or shortness of oxygen?

22

A. Yes.

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Q. It goes on:

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G.C.

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"At autopsy there was some evidence of cerebral edema, but gross examination of brain did not reveal any obvious cerebral hemorrhage. The heart did include the features of complete transposition of the great vessels with an intact ventricular septum and the patent ductus arteriosus was very small. Although a balloon septostomy had been performed the interatrial communication was quite restrictive and it was obvious that this was the reason for the child's clinical deterioration, was an increase in hypoxia."

So, he is saying that although these passageways were available to allow blood mixing, in both cases they were small?

A. They had become so, yes.

Q. Right.

A. And I think that the atrial communication, obviously the septostomy had not been a long lasting benefit there, the ductus which was thought to be contributing to the heart failure earlier was also very small so that it probably wasn't



G.7

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the ductus that was contributing to the heart failure
in the end.

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Q. Right.

5

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A. It was simply the two
circulations were going independently around and not
enough mixing was occurring.

7

8

Q. But nevertheless, that heart
failure was real and had to be dealt with?

9

A. Yes.

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Q. And it was in dealing with the
heart failure, was it not, that - I want to say
difficulties, I don't mean - let me find another word,
that conundrums arose, finding exactly the medication
and level of medication to control the heart failure
without producing other unfortunate effects. Is that
fair?

16

A. Yes.

17

18

Q. And I'm talking about digoxin
particularly.

19

A. Yes.

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Q. At page 30 of the chart, Doctor,
on the 6th of September, middle of the page, it is
reported that the child is digitalized and orders a
level in the morning, records a level to be taken in
the morning. At page 117 there is the Biochemistry



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report recording that on September 7th the sample on assay produced 2.1 nanograms of digoxin per millilitre. That, as I recall it, Doctor, is slightly above the upper limit of therapeutic levels referred to in the Hospital's Paediatric Handbook, is it not?

A. Yes, about that level, yes.

Q. Yes. So, having digitalized the baby, a level was recorded that was not seriously above that level, but a touch on the high side. Is that fair?

A. Yes, top.

Q. On page 32 of the chart, I thought I had seen something on that page that perhaps may have been a reference to digoxin. Apparently at 12:30 on September 6th there had been an episode of bradycardia and apnea, and the level as shown on the sample that we took the next day was 2.1 nanograms of digoxin.

Is it possible, Doctor, that the digitalizing doses for this child which produced the 2.1 level on the 7th was in some way connected with the episode of bradycardia and apnea on the 6th?

A. It would be unlikely I think.

Q. Is bradycardia not one of the consequences of digoxin toxicity?



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A. Yes, but that level is not one that I would be concerned with at that age.

Q. All right.

A. If it were 3 or 4, I might be.

Q. All right. On page 37, the note for September 8th, recorded in Dr. Huang's note in the chart and what the digoxin dose is, the maintenance dose and the digoxin level is pending. Now, that is the second level in three days apparently. There had been one ordered on the 6th, taken on the 7th, there is now one pending on the 8th. Is there any particular reason for that, Doctor, at this stage in the baby's course?

A. That was on the Neonatal floor. They monitor the levels on that floor because they are usually smaller babies and younger babies are monitored more frequently than we generally do.

Q. All right. And at page 118, the digoxin level was pending, as reported, sample taken September 8th, level of 1.7 and now within the therapeutic range recognized by the Hospital?

A. Yes. I refer you to page 38, Doctor, please. That is a note whose date is not particularly clear, but the fifth item recorded on the page is "Bradycardia - now about 110 to 120 beats per



G.10

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minute, EKG strip, impression... "What's that?" "With creatinine? dig toxic?"

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A. Yes.

5

Q. "Get dig level a.m. hold dig

6

for now."

7

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It appears, does it not, that it occurred to somebody to question whether there may be a connection between the episode of bradycardia and digoxin intoxication?

10

A. Particularly because of the

11

suggestion that renal function might be a bit impaired.

12

Q. Yes.

13

A. They would be watching that, yes.

14

Q. Yes. Now, hold digoxin, now

get and that September 8th was 1.7?

15

A. Yes.

16

Q. And page 41, bottom of the page

17

again we have digoxin held, the level is 2.1 and potassium level is down, going to get a level tomorrow.

18

19

Do you see that? And on page 42, Cardiac Fellow,

20

apparently signed by Dr. Olley, current status is

21

satisfactory, reasonable, appears is awaiting digoxin level and that appears to be a note on the 9th or the

22

10th, it is undated?

23

A. Yes.

24

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/DP/ak

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Q. Later in the day the dig
level was received and that was 1.7, I believe.

4

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On page 43 the note is that the child
is in heart failure and records the maintenance dose
of digoxin it is receiving at a level of 1.6.

6

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I have to tell you, Doctor, that
nowhere in the biochemistry reports can we find a
level of 1.6. It may have been referring to 1.7
earlier.

10

11

A. Yes.

12

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Q. Page 44, the cardiology note
in the middle of the page, on September 11 - I confess
for the life of me I cannot read the beginning of
that. It is obviously a well schooled physician.

15

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A. The first line?

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Q. If you can read it, Doctor,
I would be grateful. It may be nothing of profound
significance but, on the other hand, it may.

Are you able to read that?

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A. 16 day old male, I think
that probably is. I grant you it would be difficult
for everybody to interpret that. In FIO₂ of 37 per
cent which means that the oxygen concentration in
which the baby was placed was 37.

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25

Q. Spontaneous respiration?



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A. Yes.

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Q. Am I getting it?

4

A. Yes.

5

Q. That is good. BP, is it?

6

A. Blood pressure, I presume

7

that is, 66 right arm, 64 right leg.

8

Q. Respiratory rate?

9

A. Is 60.

10

Q. Heart rate, 148?

11

A. Could be.

12

Q. Cardiac something is increased.

13

A. Cardiac --

14

Q. There ought to be a prize for
this.

15

A. I cannot read that - whether
it is cardiac motion increases.

16

Q. It appears to be motion.

17

A. Right ventricular heave.

18

Q. Heave?

19

A. And ? thrill.

20

THE COMMISSIONER: Could we go
through this exercise after the break and perhaps it
could be resolved during that time.

22

23

MR. LAMEK: Yes. As a matter of
interest, Doctor, before we go, whoever wrote that

24

25



1
2 note at least wrote at the bottom legibly "stable
3 cardiac status" and it appears that the child is
4 on digoxin.

5 THE WITNESS: Yes.

6 ---Short recess.

7 ---Upon resuming.

8 MR. LAMEK: You seem to have
9 lost your audience, Mr. Commissioner.

10 THE COMMISSIONER: The show goes
11 on regardless of the size of the house.

12 MR. LAMEK: Q. Dr. Rowe, we just
13 looked at the cardiology note on page 44 of the
14 Hospital record. On page 45 there is a further
15 cardiac review, again from Dr. Olley, in which, if I
16 read it right, he records that the baby remains in
17 moderately severe congestive heart failure,
18 satisfactory PaO₂. The liver is obviously distended.

19 The plan: the baby is maintaining a
20 good PaO₂ by persistence of a significant ductal
21 shunt and a high blood flow. The price is significant
22 heart failure.

23 I wonder if you could explain that
24 to us?

25 A. Yes.

Q. Is it a sort of roundabouts



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and swings thing that is going on here?

A. Yes. The fact that the baby has a relatively good amount of oxygen being exchanged is an advantage, but the disadvantage is that in order to accomplish that there is much more blood going through the lungs than normally would be.

There is in transposition in any event a lot more blood going through the lung than is going around the other side but if you have a ductus as well shunting, as it was, predominantly from the aorta to the pulmonary artery that produced a situation of left ventricular failure.

Q. I would think this was the note that you were referring to earlier.

A. I think it is.

Q. Because he sets out the options here.

"If failure cannot be controlled medically we will have to ligate the patent ductus arterial and probably do a Blalock-Hanlon. If failure can be reasonably controlled we may be able to do an arterial switch in 2-3 months."

I suggest to you, Doctor, that in



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either event that is not the note of a physician who thinks that his options are going to be foreclosed by the sudden death of the child, is it?

A. I don't know.

Q. He is contemplating on the one hand the possibility of an arterial switch, major corrective surgery, in two to three months, if the heart failure can be controlled, otherwise they have to do the palliative surgery.

A. Yes, but it implies there that he cannot make a good prediction of whether they can control the heart failure.

Q. I understand, but does it also not imply that there is time to wait and see and watch what develops?

A. For the moment.

Q. Yes.

A. Yes.

Q. That is as of September 11?

A. Yes.

Q. On page 47, it appears that the dose of digoxin is increased, does it not? What are the units there? .008, what is that, milligrams, what is that, milligrams per kilogram?

A. It is probably talking about



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8 micrograms per kilogram.

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Q. 8 micrograms, would that be the same as .008 milligrams?

5

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A. No, it is not - I am sorry - yes, it is.

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Q. I take it the note seems to indicate that that increase in the maintenance dose is influenced by the level of 1.6 on the 10th of the month. In other words, it seems to have an acceptable level and therefore let us try pushing digoxin a little.

12

13

A. I assume that was the conclusion.

14

15

Q. In an attempt to gain control over the congestive heart failure.

16

17

18

19

A. Yes.
Q. Doctor, the 1.6 level, and 1.7 level, back, as I recall it, on the 8th of September, would you have expected a further level taken before the increase in the dose?

20

21

A. Not necessarily, no. It would depend on individual preferences.

22

23

Q. Would you, having increased the dose, expect another dig level to be taken?

24

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A. Yes, I think on that ward I



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would.

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Q. On page 97 there is apparently such an order, although, interestingly, the order as it appears on page 97 is to increase the dose not to .008 milligrams but to .009 with the order that there be a dig level on Monday. I tell you, Doctor, that I do not see a digoxin level shortly following that except on page 124, digoxin samples apparently submitted on September 18, which would be almost a week later, but unhappily there was not sufficient quantity of the sample to record a level.

12

A. Yes.

13

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Q. So not only does there appear to be an inconsistency between what is recorded on page 47 as the increased dose and what is recorded on the order sheet on page 97, but there does not appear to have been a dig level done on the Monday.

18

A. Yes.

19

20

21

Q. Page 49, after the matter had progressed, through 12th, 13th, 14th, page 49 appears to be I believe on September 14. Note:

22

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"Heart failure. On digoxin and aldactazide, liver 2 centimetres worth of costal margin, femoral pulse, slightly bulging..."

Does that refer to the femoral pulse?



1 A. It is hard to say.

2 Q. Good output. Improved.

3 The heart failure appears to be in
4 control, does it not, as of that?

5 A. Yes, at least reasonably so.

6 Q. On page 50, the reference,
7 question transfer to 4A/B. Discuss with cardiology.
8 Pages 50 and 51, we see the transfer note, the child
9 going to the Cardiac Ward although apparently when
10 you get to page 52 on the 16th, a note in the
11 middle of the page, still awaiting transfer to 4A/B.

12 Just above that had been stable over-
13 night. The transfer had not yet taken place.

14 At the bottom of the page, Dr. Olley's
15 note,

16 "Remains in failure with signs of a
17 big ductal shunt. Losing weight.
18 Will discuss re surgery."

19 On page 54 as we have seen the transfer
20 takes place from 7B down to the 4th floor and the
21 digoxin dose, maintenance dose, is recorded two-thirds
22 of the way down the page as .009 milligrams taken
23 orally every 12 hours. We do not know whether that
24 is an increase from what appeared as .008 or whether
25 they have now got the order right, that should have
been .009.

26 But, Doctor, as of the date of the
transfer which was the 17th, there had still been no



1 digoxin level recorded since September 11 when the
2 dose had been .006 milligrams, as I recall it. Is
3 that right?

4 A. Yes.

5 Q. Page 55, is a note by
6 Dr. David Nelles, the resident to which you have
7 already referred. The proposal is to increase to
8 maximum digoxin and diuretics, and watch the urine.
9 Whose order would that have been? Would that have
been Dr. Nelles' order?

10 A. Would it have been his order?

11 Q. Yes.

12 A. Yes.

13 Q. Rather than a cardiologist's
14 order?

15 A. He would probably have discussed
16 it with the cardiologist, but he would write the
17 order, yes, or could write the order. I don't know
18 whether he did write the order but he could. It is
the usual practice for the resident to write the order.

19 Q. Then we have got the sample
20 taken the next day, on the 18th of September, for
21 which there was not sufficient quantity to do an assay
22 and there is no indication that a substitute sample
was provided then or indded for several days thereafter.

23 The course of the baby goes on,
24 apparently not thriving, weight losses are recorded,
25 as one reads through the chart, Doctor, are they not?



1 A. Yes.

2 Q. On the other hand, the
3 congestive heart failure does not appear to be
4 getting any worse, doe it, as one proceeds through
5 the week after his return to the ward.

6 Then we get to page 60. At page 60
7 it is recorded, two-thirds of the way down the page,
8 under the heading CHF, congestive heart failure
9 slightly improved, continue dig and diuretics,
10 discuss possibility of surgery of ligation of PDA
11 which although is causing mixing of blood which is
12 need is also keeping her in CHF, and that is the
13 paradox of this child's management is it not at this
14 stage?

15 A. That is the paradox --

16 Q. That's the paradox about this
17 child's management at this stage?

18 A. Yes, I would have thought then
19 that the evidence would be for the duct to have been
20 closing but clearly there was a problem with mixing
21 and heart failure.

22 Q. Yes. What, Doctor, is an
23 off-service note? There's one in the middle of page
24 61, on the 29th of September?
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A. Off-service note would be a resident writing a summary of the status of the patient at the time he leaves the service and he hands over to another resident coming on at the end of the month. I'm not sure - it is not the end of the month, the 24th, but that is usually when that is done, but it might have been that that was the case. That usually means that the resident is leaving the service and signing over to somebody else.

Q. And he records the same problem at the foot of his note, does he not? The problem is controlling his CHF medically until surgery can be arranged. He can be built up nutritionally. The PDA is required for mixing up his blood and is probably the cause of CHF. Plan: digoxin lasix, aldactone. Watch dig level, lights and - what is that one?

A. I'm not sure what that is.

Q. Watching things, including dig level.

In fact, Doctor, no new dig level had been obtained as of the 29th of September, since September 11th, sample on September 14th - September 18th was not sufficient quantity.



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It appears that now, what, 14, two weeks later after the increase - after the maintenance dose of digoxin had been increased for this child, the note is: "Watch digoxin levels". Do you have any comment on that as a course of management with this baby, Doctor?

A. I think they clearly had in mind getting digoxin levels. I believe that it would have been wise to get digoxin levels, especially since they had other information back. But it may be that, as I have said before, there is a huge debate that goes on between physicians about the need to obtain digoxin levels very frequently, even once you think you have a stable situation. I think in order to answer that question as to why it wasn't pursued, you would probably have to speak to the individual physicians, I don't believe that point emerged earlier.

Q. I think, Doctor, I misled you in one respect, the date of that on-service note is 24.9, and not 9.9, the date above it on the page is 23.

A. Yes.

Q. But the date on the following page is 24.

A. Yes, I thought it was the 24th.

Q. So it had been 10 days since a digoxin level was taken?



I.2

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A. Yes.

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Q. In fact on the 24th of September

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a sample was taken, Doctor, and it is found at page
126:

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"Sample at 4 o'clock in the after-
noon, 24th September, digoxin 3.5
nanograms per millilitre."

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I wonder if I might have your comment
with respect to that in light of the previous 10 days
of no digoxin levels but increased dosage?

10

11

A. I think that would be a level

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that would be higher at that time that we would have
accepted, or should have accepted, and it would be a

13

level that I think one would probably withhold digoxin.

14

15

Q. And indeed does that not

16

precisely illustrate the wisdom of having taken
digoxin levels in that intervening 10-day period while
the maintenance dose had been increased?

17

18

A. You can argue that.

19

Q. Is there an answer to the

argument, Doctor?

20

21

A. Well, I think that you don't -

22

I think I have to repeat this, you don't always
gauge the decisions about your dose of digoxin by
levels and it is possible to make that judgment

23

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25



I.3

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2 clinically in some cases. I think in this situation
3 it would have been wiser to get more levels.

4 Q Yes.

5 A But it is not absolutely
6 imperative to manage patients with digoxin levels.

7 Q There had clearly been an
8 ongoing concern about levels in this baby's management,
9 had there not?

10 A Well, that is recorded there.

11 Q Yes. Now, with respect to the
12 terminal events we have discussed those and the arrest
13 notes and so on.

14 Doctor, I think you have already told
15 me that those events and their onset and course are
16 consistent with digoxin intoxication?

17 A Yes.

18 Q And we have seen the sequence
19 of levels and dosages that were going on here. The
20 3.5 level that was recorded on the 24th, Doctor, and
21 that was the day preceding the night in which this
22 baby died, was it not?

23 A Yes.

24 Q Do you regard that as a prima
25 facie indication of a measure of toxicity?

A No, not necessarily.



I.4

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Q Is it a level that would put
you on notice to take a very close look at that baby?

4

A In 1980 I would say yes.

5

6

Q And indeed you said it was the
kind of level that would perhaps cause you to hold
digoxin?

7

8

A Yes, just to be on the safe side
even if there hadn't been any other features to
suggest it.

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Q It would at least, in short,
have raised a warning flag for you?

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A Yes.

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Q Doctor, we know that in the
present Resident's Handbook, which has been marked
as an exhibit, there is a very conservative range of
blood levels given for the therapeutic range from 0.8
to 1.8. As I understand it most authorities would
regard that as a conservative range with a rather
low upper limit to it. Was that the range that was
being regarded as the normal therapeutic range in
1980?

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A Yes.

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Q At your Hospital?

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A Yes, I think roughly so, yes.

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MR. SCOTT: Mr. Commissioner, I wonder

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if I could interrupt just to tell you that I would like to make a submission about a question that Mr. Lamek has been asking throughout. I will do it at a convenient time to you, but I would like to do it because it has received some play in the press and I think it only fair that the matter should be raised.

It has to do with the question that Mr. Lamek puts, the question that he has put in each case and I presume will put in the case of each baby: "Is this death consistent with digoxin poisoning?". I would like to make a submission about the fairness of that question at an appropriate time and I just want to go on the record.

THE COMMISSIONER: Well I suppose the appropriate time is before he does it again.

MR. SCOTT: Well, he has just done it again and my attention was distracted by something else. He never warns me but when he is going to do these offensive things and I have to grab it when I can. Perhaps the next time if he will let me know I can make a submission.

THE COMMISSIONER: You can make it now if you want to .

MR. SCOTT: If it is convenient I am



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quite prepared to do it in the absence of the
witness if you think that is appropriate.

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THE COMMISSIONER: No, I don't think
so.

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MR. LAMEK: Mr. Commissioner, as far
as it goes perhaps I can say only this, Mr. Scott
has not spoken to me about this but I am aware of
what it is that concerns him. I proposed in the
course of the examination of Dr. Rowe today to put
to him what I have no doubt is the very thing that
Mr. Scott would like to have put to him.

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MR. SCOTT: Well, let's have it out
because this Inquiry is of course being reported and
the press reports to date suggest that the alternatives
that present in the death of these babies are: death
by virtue of deformed heart, or death by digoxin, and
that is it.

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THE COMMISSIONER: I thought Dr. Rowe
had made it clear that it could just as easily have
been death from other causes as well. It could have
been any kind of - the probable cause as he said in
most of these instances is the defects of the heart.
A possible cause is digoxin toxicity. Another
possible cause presumably would be another kind of
poisoning.



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MR. SCOTT: But there are, as long as you, Mr. Commissioner, are aware that there is an almost unlimited range of possible causes. For example, shock might indeed induce the cardiac arrest.

My trouble with the question is not that it wouldn't be permitted, because it is a legitimate question, but rather it has to do with the inference that laypeople like myself draw from it that only two alternatives are presented, when in fact there are a range of possibilities of which digoxin is one.

Now, if it is understood by everybody in this room and outside, I have no quarrel with the question.

THE COMMISSIONER: I don't know how big the range is, but one theory is digoxin poisoning, and that is a theory that will have to be thrashed out. Before thrashing it out surely you have to ask the witness is this consistent with digoxin poisoning?

MR. SCOTT: Yes.

THE COMMISSIONER: So that question must be asked at some point. There is no reason to ask whether it was consistent with some other kind of poisoning, or with shock, or with something that is natural. As I understand it Dr. Rowe's position on



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most of these deaths has nothing to do with poisoning of any kind, it has to do with the state of the heart of the baby and the deaths from those events.

MR. SCOTT: What I am concerned about is in an examination of a medical expert about the cause of death we have through some fashion arbitrarily restricted ourselves to two potential causes, and Dr. Rowe is invited in essence to comment on both of them. As long as it is understood clearly that there are many more than two potential causes, theoretical causes, I am perfectly content, but it is not a choice between cardiac arrest caused by a grossly deformed heart, or digoxin, that has yet to be established. Those are simply two of the potential causes.

THE COMMISSIONER: I think I understand your point. I think that you can raise all of those issues with Dr. Rowe if you want to in the course of cross-examination.

MR. SCOTT: The problem is that may not be, if the timetable changes again, for several weeks, and as these examinations are reported in the press daily I just want to be sure that there is no unfairness done to any of the other participants, I care not for myself, by the way this examination is conducted.



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THE COMMISSIONER: I hope that those who are reporting it make note of what you have to say. So there we are. You can expand, do anything else you like Mr. Lamek, but I understand your position which is I take it, when I say your position, I take it you are seeking after the truth even as I am, but the likelihood, and when I say the likelihood, please don't think that I have settled on any solution to this problem. The likelihood are heart defects or digoxin poisoning, the likelihood of the deaths of these babies, but there may be other matters and we are going to have to go into them and that can be brought out in your examination, or Mr. Lamek's if he thinks it is worthwhile. All right?

MR. LAMEK: Mr. Commissioner, Mr. Scott's point if I may say so is entirely right and it had concerned me over the course of the weekend and perhaps the inference he is suggesting could be drawn from questions of this sort. Let me therefore put to Dr. Rowe now the question that in fact I had proposed to put to him today.

THE COMMISSIONER: Yes, all right.

MR. LAMEK: I found the place in my notes.

Q Doctor, you have said about a



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number of these deaths and you said it frankly, that the terminal events and their onset and their course, and their apparent irreversibility were consistent with digoxin intoxication. Are those events with that onset and that course consistent with causes other than digoxin intoxication?

A. Yes.

Q. With what other courses?

A. They could be with the natural course of dying.

Q. Pardon?

A. The natural way of dying.

Q. Something has got to bring on the death, has it not?

A. Yes, but the mode of death which I gather you are discussing at the moment?

Q. Yes.

A. Could be caused by the natural deterioration of the infant with severe congenital heart disease.

Q. And that is the other thing with which you said all these terminal events are consistent?

A. Yes.

Q. You have said they are consistent



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with the nature of the defects and disease, and you have agreed that they are consistent with digoxin intoxication. Is this particular set and pattern of terminal events consistent with other causes of death?

A. Yes Any form of death in a baby can be electrically similar to the events that have been described.

Q. When you say electrically similar what do you mean?

A. I mean the slowing and the irregularity and the dysrhythmia or disturbance of rhythm can occur during the course of dying from any cause in a baby.

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Q. Other than the cause which you have ascribed to the death of these children, that is to say, the state of their cardiac anatomy and prior clinical causes, what other cause would you ascribe to the deaths of these children which would produce a pattern of terminal events which we have seen?

A. Any other form of death, sepsis, any form of death at all any baby can produce this reduction. Any way in which the baby dies can cause electrical events of this sort.

Q. Well, I appreciate that, Doctor, but is there any other cause of death which is apparent as a candidate for the cause of death on your reading of these charts which causes this pattern of terminal events?

A. Well, it might be some medication, some other medication.

Q. It may be some other medication?

A. Yes.

Q. Others of the medication which these children were known to be receiving, is it known that those medications purchase terminal events of the kind that we have seen?



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A. They may be.

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Q. Which ones?

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A. Even the diuretics may
do because of the babies dying at that time.

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Q. All right.

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THE COMMISSIONER: I'm sorry, I
missed that.

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THE WITNESS: As the baby is dying
at that time or is about to die, then that might
appear to be related to the medication.

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Q. So, if the baby has been
on, let us say, lasix or something of that sort?

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A. Yes.

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Q. And is dying, the lasix
may produce the pattern of terminal events that we
have seen here?

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A. Well, the lasix, if you are
giving a dose of lasix to a baby who is in the process
of dying, that may produce changes in the electrolyte
system that might produce death.

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Q. Yes. Would it produce
death with a pattern of terminal symptoms that we
have been seeing?

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A. It might; it could. The
difficulty is, as I have said, that anything -- It doesn't

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2 matter, if you gave the baby a dose of any medication
3 at all, any excessive medication at all you might get
4 a death like that, electrical death where the heart
5 rate slows and there is irregularity at the end.

6 Q. Well, Doctor, you have
7 just said something that interests me, any excess
8 dose of medication.

9 A. Yes.

10 Q. Are you suggesting that this
11 pattern of terminal events and this pattern of onset
12 and course of terminal events may be indicative of
13 intoxication by a number of agents?

14 A. Yes, it could be. But I
15 am really referring to the fact that when the baby
16 is deteriorating, the dosage of the material will be
17 relatively high even if it's not an artificially
18 high dose for that infant.

19 Q. Okay. Your proposition
20 is that even a dose which would normally be regarded
21 as a therapeutic level may, in a dying baby, produce
22 the effects of toxicity?

23 A. Yes.

24 Q. And those effects may be
25 manifested in a pattern of terminal symptoms of the
kind that we have been seeing here?



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A. Yes.

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Q. And, in addition, the

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normal decline that you have described of a child

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with severe heart disease or heart deformations may

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similarly produce terminal events of the kind that

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we have seen here.

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A. Yes.

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Q. Is there anything else

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other than toxicity, whether caused by normal or

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toxic doses of medications or the result of bad

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anatomy of the heart that's capable of producing this
pattern of terminal events?

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A. No, I just would add that

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if you have severe heart disease, then your situation

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is very much worse off than if you're a healthy baby,

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obviously, and so that there may be some things like

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minor changes in lung function to give you acid

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doses or hypoxia that could do the same thing.

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So, there are a number of different

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things that might be going on in the course of a

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baby's illness, particularly I think in this situation,

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but essentially because of the age of the patient

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could produce this standard and well recognized way

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in which babies die.

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Q. Okay, Doctor, can we fairly



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2 put it this way. When you have said to me in
3 response to my direct question that the terminal
4 events and their onset and course are consistent with
5 digoxin intoxication, it should also be said that
6 they are not necessarily indicative of digoxin
7 intoxication. That I think is the point you want to
8 make.

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8 A. I think so.

9 Q. All right. And I think it is
10 a point that should be made, I think that's fair.

11 THE COMMISSIONER: Well, that may be.
12 What I am really concerned about, Doctor, is that
13 we haven't got to it yet, but there appears to be
14 some forensic evidence of too much digoxin in the
15 system or in the tissues or in the blood of the children.
16 There certainly is evidence of heart defects in the
17 children, either of them could have caused the deaths;
18 either the heart defects or the digoxin.

19 Now then, for any of these babies,
20 have you any suspicion of any other real cause. You
21 make out death certificates - I don't know whether you
22 do, perhaps just coroners do - but they make them out
23 and they say the cause of death, and that's the major
24 cause of death, and if it is heart failure from heart
25 disease, that's one thing they put on. If it is death



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2 by a massive overdose of digoxin, which is certainly
3 not an ordinary thing to happen, if that were obvious,
4 that is what the Coroner would put on the death
5 certificate.

6 Was there ever any suspicion of any
7 other cause of death. I notice you have mentioned
8 in the Velasquez baby...

9 THE WITNESS: Narcan.

10 THE COMMISSIONER: There was some
11 possible reaction to some other. But when you are
12 answering these questions, is there some suspicion
13 of something else besides heart failure in your
14 mind and, if there is, we would like to know of it.
15 When I say heart failure, I guess everybody dies
16 from heart failure, but it is heart disease. Have
17 you got any other suspicion of anything else?

18 THE WITNESS: No, I haven't. At this
19 phase, we are talking July to December, and we certainly
20 didn't have anything there.

21 THE COMMISSIONER: No, no. But have
22 you any suspicion even now of anything else other than
23 heart disease?

24 THE WITNESS: Not in the July to
25 December group.

THE COMMISSIONER: Yes. Well, I don't



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2 know, Mr. Scott, whether this helps or does not help.
3 I concede that it could have been from something else,
4 but if we are never going to have any evidence of any
5 other agent that could possibly have caused the death,
6 then surely, aren't we faced with the problem?

7 MR. SCOTT: We are here, Mr. Commissioner,
8 simply to help you.

9 THE COMMISSIONER: Yes.

10 MR. SCOTT: It may not always look
11 like it but I am here to help you on behalf of the
12 Hospital to answer this riddle on the state of the
13 evidence that is before you. The Doctor has said
14 clearly that there was nothing to indicate digoxin
15 poisoning.

16 THE COMMISSIONER: That's right.

17 MR. SCOTT: So that when it is put
18 to him that it is either digoxin poisoning or heart
19 deformity, can you add anything else, it seems to me,
20 with the greatest of respect, that I think he has
21 politely given his evidence, that that is unfair.
22 There was nothing in this record, and he's talking
23 the deaths up to the end of December, that were
24 indicative, to use the Doctor's words, of digoxin
25 poisoning.

THE COMMISSIONER: No, but there was ---



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2 MR. SCOTT: So, therefore, he has
3 drawn a conclusion about death and he has pointed out
4 to Mr. Lamek that the mechanics of death that are
5 exhibited in these cases are the way sick babies die.
6 All sick babies die with the same mechanics, the slowing
7 of the heart and so on, and that mechanical process,
8 I think he calls it an electrical process, can be
9 initiated by a variety of causes. I presume even an
10 aspirin at a certain stage in the process of the baby
dying can trigger that electrical process.

11 Now, if that's understood, I have
12 nothing more to add, but to suggest, as Mr. Lamek
13 was doing ---

14 THE COMMISSIONER: No.

15 MR. SCOTT: --- that there were two
options ---

16 THE COMMISSIONER: The papers may be
17 suggesting that. I don't think Mr. Lamek is suggesting
18 that, he is merely saying is it consistent with
19 digoxin toxicity and it is, according to the Doctor,
20 consistent with that. Now, it may be consistent with
21 all sorts of other things. It may, even for all I
22 know, be consistent with death in a motor car accident,
23 but there is no suggestion that any of these children
were in a motor car accident.



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2 MR. SCOTT: Mr. Commissioner, we will
3 hear more of it later and I know you will have
4 focussed on the answer, rather unusual to a lay person,
5 that the Doctor gave about the way babies die, because
6 that's what we may, as we go along, be focussing on,
7 the process is parallel and what we are engaged in
is a search for an antecedent trigger.

8 THE COMMISSIONER: Well, Mr. Scott,
9 you have made your point. I hope you will make it
10 again when you get to argument but, in the meantime,
11 I think we will just carry on and if you want to
12 amend your question at any time you can, if you want
13 to put your question just that way you can too, but
14 I trust that the media understand the limits of your
answer.

15 MR. LAMEK: Thank you, Mr. Commissioner.

16 THE COMMISSIONER: All right.

17 MR. LAMEK: I hope we have clarified
18 the question as framed by me and as answered by Dr.
19 Rowe. It means no more, that these symptoms that we've
20 described in the terminal events are consistent with
21 digoxin poisoning but not necessarily indicative of
it. It may be indicative of death by some other cause.

22 What Mr. Scott has just said, Dr. Rowe,
23 that there is nothing in any of these charts to raise
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2 the question of digoxin intoxication. I suggest to
3 you, Dr. Rowe, that there is perhaps something in the
4 very chart that we are considering now, that of
5 Brian Gage.

6 On the morning before this child
7 died, the first digoxin level recorded in 10 days
8 showed a level of 3.5 nanograms per millilitre, which
9 although astronomic, is essentially twice that level
10 which the Hospital regarded as being normally the
upper limit of a therapeutic range. Is that fair?

11 A. Yes, that's fair because
12 the Hospital Manual that you referred to is for
13 resident staff and resident staff usually try to
14 persuade - usually attempt to persuade resident
15 staff to keep within certain guidelines in any sort
of dosage arrangement or laboratory evaluation.

16 Q. Yes. Of course, you want
17 them to be cautious, they don't have the clinical
18 experience that your own people have?

19 A. That's correct.

20 Q. But nevertheless, you have
21 yourself said, Doctor, that level you would regard as
22 a warning flag and that you would probably withhold
23 further administration of the drug until you had made
24 some investigation of the situation, did you not?
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A. I would do that, yes. At least, I would expect the resident to do that.

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Q. Well, your answer earlier I think was framed I think in terms of what you would do, Doctor.

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A. Well, if I had been the physician of record I would have examined the patient and perhaps decided, in light of the degree of heart failure and everything else, whether I would still pursue it with the same dose. But I think it would be a wise decision ordinarily to reduce that.

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Q. Because that level may or may not indicate that some toxic results may be seen in the patient?

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A. Yes.

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Q. All right. Now, this was not your patient, as I understand it?

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A. No.

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Q. When you looked at this chart, Doctor, and you saw that on the morning preceding this child's death a level of 3.5 nanograms per millilitre had been measured in the blood of the child, did the question not occur to you whether digoxin may have played some part in his death?

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A. I think that's possible but

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I think the other factors were overriding.

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Q. Doctor, forgive me, that

is not an answer to my question. Did you consider
the possibility when you reviewed this chart and saw
that level that digoxin may have played a part in
this child's death?

A. Well, I would say that you
would have to take the possibility that it might have
played a part, but I would personally, looking over
that data, be very skeptical that it had anything
to do with the death of the patient.

Q. Did you consider the
possibility, or do you not now remember?

A. I don't recall at the time
when we discussed that death in the conference room
or whenever it was. I don't know that I was there,
was I?

Q. Yes.

A. Yes, I would have been there.

Q. You were still there, just
before you left on your trip?

A. Yes, I had just come back.

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Q. A little earlier, we read Dr. Freedom's reporting letter, which is at page 13 of the medical records, doctor. He says, at the end of the second paragraph, as of September 26th, the day after the child had died:

"It is unclear as to the precise cause of death but most likely it was due to a hypoxic episode."

That was the day after the death. Was this death discussed at the normal Cardiology morning meeting?

A. I cannot recall, but I expect it would have been.

Q. I take it that Dr. Freedom was as unclear at the morning meeting as he was when he wrote this letter as to the precise cause of death?

A. I do not believe that there was a discussion that I can recall about that point.

Looking back on that record, I would be surprised if there would be a question about what caused the death.

Q. Again, I suppose it is something I will have to ask Dr. Freedom.

A. I expect you will.

Q. I take it, from what you



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have just told me, doctor, you have no recollection of any other cardiologist or Cardiac Fellow raising any question as to digoxin's involvement in the death of Brian Gage?

A. I do not recall it was raised.

Q. Thank you.

Excuse me a moment, Mr. Commissioner. The graphics take time.

Can we move on to the case of Richard McKeil, who died on October 15th at, I believe, 4:30 in the morning. He, too, I believe, died post operatively?

A. Yes.

Q. Having had surgery some three weeks earlier, on September 22nd.

A. Yes.

Q. Once again, doctor, we have a diagram purporting to depict the heart of this baby. Can you tell me, please, whether it accurately does so?

THE COMMISSIONER: I am told by the Registrar, Mr. Lamek, that we do not have a copy of that.

MR. LAMEK: I think I may have



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goodies for everybody!

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This is the second part of the
material supplied -- is he in this bundle?

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THE WITNESS: Is he not in the
previous group?

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MR. LAMEK: I thought he was in
the previous one but, when told otherwise, I decided
he could not have been.

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We may be missing the small drawing
of the McKeil one. It apparently was not in the
other one either.

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No. We have a nice new bundle but
it does not include McKeil.

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THE WITNESS: We'll make sure that
you get it.

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MR. LAMEK: Q. Could you refer
to the large diagram behind you, doctor, and help us
with it.

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A. This is a youngster who
has a very complicated defect and the diagram is a
composite of information revealed from the investiga-
tions and from the autopsy, because the autopsy, I
think, was the final definitive examination.

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The main problem here is that the
great arteries of the heart, the pulmonary artery and



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the aorta, are transposed, but they both come off of the right ventricle. In other words, their relationship spacially to one another is different from the normal but, in addition to that, they are coming from one chamber only; so they are coming from the right ventricle here.

The additional abnormality that was present internally was that the left-sided valve between the upper and lower compartment on the left side is connected by its attachment to structures within the right side of the heart. That means that, whenever that valve opens, blood tends to be directed from the left atrium into the right ventricle. It is a condition called straddling of the mitral valve. There is, of course, a ventricular septal defect here of large size and it is through that defect that the straddle of the valve occurs.

The consequence, generally, of that arrangement tends to be that more blood is delivered to the right side of the heart than to the left.

On top of that, there was coarctation of the aorta - I cannot reach, but it is up in the usual area where coarctation of the aorta is found and, on this particular diagram, it shows that the coarctation has been repaired surgically by the



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removal of the constricted portion. Remembering that the coarctation is an area of narrowing in the aorta just as if you tied the aorta with a piece of string, that narrowing has been cut out and the two ends of the aorta sutured together so that you have an appearance a little bit diagrammatically like that,

In addition, a band has been placed on the pulmonary artery surgically to reduce the amount of blood that is going out to the lungs because, with this large defect and the high pressures here, there is a great tendency for the sponge of the lung to accept all the blood that is thrown at it and the attempt on the surgical side is to reduce the amount of blood going through to the lung by placing a resistance around the vessel.

There is an atrial communication as well, an atrial defect in the atrial septum at the top of the heart, that constitutes the major situation. This is a very severe malformation and, substantially, it turns out, complicated by the straddle of the mitral valve. On its own, even, it is a very severe situation where one would expect progressive heart failure.

THE COMMISSIONER: Mr. Registrar, could we not get Dr. Rowe a pointer so that he could --

THE WITNESS: Sorry, my pointer



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remained in another bag.

THE COMMISSIONER: I have certainly seen pointers in courtrooms. However, we may have to worry about that after, but it makes it more difficult.

THE WITNESS: I shall have one right after lunch.

THE COMMISSIONER: I think we can help, too.

MR. LAMEK: Q. Before I forget, Dr. Rowe, in the absence of the Registrar, I take it, from what you have told me so far, that you are satisfied that the diagram properly depicts the heart of Baby McKeil after the surgery?

A. Yes, I do.

MR. LAMEK: As a surprise for the Registrar, Mr. Commissioner, may that be the next exhibit when he gets back?

THE COMMISSIONER: Exhibit 75, I guess, and it is the diagram after surgery.

--- EXHIBIT NO. 75: Diagram of heart after surgery, R. McKeil.

MR. LAMEK: Q. Dr. Rowe, in preparing for the meeting of January 12, 1981, you scored Richard McKeil as "unexpected." Can you tell me why, please?

A. Well, he had a malformation



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that is serious, and, looking at his pathological information later, of course, it would emphasize that point, but we would still take the position in the clinical area that there were things that could be done to perhaps help this baby.

Q. He, of course, was one of the children referred to by Dr. Trusler in his letter to you of December 15, was he not?

A. I am not absolutely sure, but I can check that.

Yes, he was, the first patient.

Q. Perhaps I could just try to summarize in capsule form first the course of this child and then I will invite you, doctor, as I have before, to comment on particular things that you consider to be of significance.

He was admitted to the Hospital on September 2nd, at the age of three days, I believe, and, at that time, he was thought to have a heart murmur and some cyanosis. Those were the symptoms which he presented.

A. Yes, I think so.

Q. And at the time of admission, when he was originally seen, it was suspected then that there may be transposition of the



K8

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great arteries.

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A. Yes.

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Q. And he received a chest

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X-ray, an electrocardiogram and cardiac catheterization

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that confirmed the diagnosis of transposition of the

7

greater vessels, or arteries, and other defects that

8

you have described on the diagram today; that is,

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a ventricular septal defect, an atrial septal defect.

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The ductus is not shown on the

11

diagram, doctor, but in cardiac catheterization, was

12

it not decided that this was still open, and the

13

coarctation of the aorta, I think, revealed in the

14

diagnostic techniques that were used on this child?

15

A. Yes. I'm a little

16

puzzled by some of that. I think there may be a

mistake in the diagram but maybe we can get to that

as we go along.

17

Q. All right. We had better

18

mark it as Exhibit 75, question mark.

19

A. Yes.

20

Q. If you should determine

21

that, perhaps you can identify for us the respect in

which it is in error.

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A. Yes.

23

Q. Thank you.

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The child was also in congestive

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K9

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heart failure, was he not, and started on digoxin
and diuretics?

A. Yes.

Q. And was managed medically,
initially at least, in the Newborn Nursery and then,
on September 7, was transferred to the Cardiac Ward.

A. Yes.

Q. Do you think you can
trust me on that one, doctor?

A. Yes, I can.

Q. After a couple of weeks
on the ward he went to the operating room on the
22nd of September for palliative surgery.

A. Yes.

Q. I take it that was the
banding of the pulmonary artery and relief of the
coarctation?

A. That is where the question
arises. I think there must be a mistake in the
diagram here. I do not think he ever had the co-
arctation fixed.

Q. I thought it was just
the banding of the artery.

A. That is right. I think
we have a major error in the diagram.



DM/ak

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A. The error, can I point it out?

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Q. Yes.

4

A. Can I point out the error?

5

Q. I believe the diagram to show

6

not the repair but the coarctions?

7

A. It may be and we have got the stitches in there instead of no

8

stitches, but it doesn't show the ductus arteriosus either.

9

Q. It does not, not at all.

10

A. So the error is only in that

11

section that where the stitches are there should be

12

no stitches because there was no operation performed

13

on the aorta, and there should be a ductus arteriosus

14

going from where the stitches are to the pulmonary

15

artery, and I will have to get that corrected, I am sorry for that mistake and I apologize.

16

Q. Thank you. The surgery was

17

apparently performed satisfactorily and the baby's

18

early post-operative course appears to have been

19

satisfactory.

20

A. Yes.

21

Q. I wonder if we could refer

22

at that point, Doctor, to what I call the interim

23

reporting letter and the first one is on page 1 of

24

the chart and it is a letter of Dr. Schaffer to

25



L2 1
2 the referring physician under date of September 8,
3 1980 and reporting upon the catheterization that
4 took place on September the 3rd. It reports what
5 was done and what was found.

6 Just one thing I would ask you please
7 to explain, Dr. Rowe, in the third paragraph it
8 says:

9 "At catheterization on September 3,
10 1980 the child was found to be 88 per
11 cent saturated in the aorta."

12 That is a concept that we have not
13 yet come across, can you help us with that, Doctor,
14 was is that again?

15 A. That is another way of
16 expressing the amount of oxygen in the blood and
17 he would be referring to blood in the aorta which
18 normally at full saturation would be 96 per cent,
19 and 88 per cent represents some blueness as it were,
20 but not a huge amount, not a major amount.

21 Q. It goes on to describe the
22 findings at the end of the penultimate paragraph:

23 "The child is presently on the
24 newborn nursery floor, quite stable
25 and awaiting further medical/surgical
management."



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And it ends:

"...we are all hoping for a satisfactory and pleasant result."

And that sounds reasonably optimistic I would suggest.

The next letter on page 2 of the chart, a letter of September the 22nd the reporting letter from the operating surgeon, Dr. Trusler to Dr. Fowler, reporting on the surgery that was performed that date, September 22nd, as you have said banding the artery. He ends his letter on page 3 of the chart:

"The child tolerated the procedure without difficulty and his early post-operative course has been satisfactory. I have every hope that he will do well." Again I suggest an optimistic sounding post-operative report would you say?

A. Characteristic.

Q. Pardon?

A. Characteristic, characteristically optimistic.

Q. I have no doubt Dr. Trusler has seen enough cases that he knows when he can be optimistic.



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3 The baby went from the OR to the ICU
4 in the normal way and that transfer is reported at
5 page 54 of the chart and the nursing records and
6 progress notes. Admitted to the ICU on September
7 22nd, and the next day September 23rd the child goes
8 back to the ward.

9 A. Could I just have that again?

10 Q. Page 56, 54 was the transfer
11 and admission to the ICU from the OR, page 56 Ward
12 4A admission note from the ICU on September 23rd,
13 the day after the surgery.

14 A. Yes.

15 Q. Which does indeed suggest,
16 does it not, a satisfactory post-operative course,
17 or immediate post-operative course anyway?

18 A. Yes, it is unusually early,
19 but it does suggest that.

20 THE COMMISSIONER: Mr. Lamek, would
21 you like to discuss the course not of the child but
22 of the hearing?

23 MR. LAMEK: Yes.

24 THE COMMISSIONER: Perhaps we should
25 rise now.

MR. LAMEK: Yes, I would be grateful
for that, Mr. Commissioner. I would like, if



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possible to meet with counsel to talk about what
is to come with Dr. Rowe's evidence.

THE COMMISSIONER: Yes.

MR. LAMEK: And find out their
wishes, what their wishes are on that point.

THE COMMISSIONER: All right.

MR. LAMEK: So if we could rise now
until the normal time, 2:30.

THE COMMISSIONER: Yes, 2:30.

MR. LAMEK: Thank you.

---Luncheon recess at 12:55 p.m.



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--- Upon resuming at 2:35 p.m.

THE COMMISSIONER: I seem to have been talked into a slot of a serious sort starting on the weekend with the August holiday weekend, and correct me if I am wrong, it is the 29th of July until the following week, that is the one I will be in Regina, so it would be, and I don't mind if anybody objects to this, but we would not be sitting from the 29th to the 15th of August.

MR. BOGART: Mr. Commissioner, is that the 15th or 16th?

THE COMMISSIONER: We would not be sitting on the 29th or the 15th. That means of course we would start off on the 16th at 180 Dundas Street in the Ontario Municipal Board, the big courtroom, the big hearing room I guess they call it.

Now, there is some little problem about finishing, as I understand it, the direct examination of Dr. Rowe by next week and it wouldn't be that serious if we didn't finish it. I think just to avoid the possibility we might sit late Monday afternoon, next Monday the 25th. Has anybody any serious objections to that? That is so we would be finished on Thursday the 28th rather than have to go into the 29th, the Friday.



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MR. STRATHY: I am certainly prepared to go along with it. I wonder if we can defer a definite decision until perhaps Thursday afternoon until Mr. Lamek sees how he is doing.

THE COMMISSIONER: Yes, all right.

MR. LAMEK: I wonder if I might speak to that, Mr. Commissioner?

THE COMMISSIONER: Yes.

MR. LAMEK: I had originally proposed to lead Dr. Rowe's evidence at this stage only so far as it covered the deaths that occurred prior to December 31st, 1980 and to call him back at a later stage to deal with deaths occurring between January 1, 1981 and March the 22nd.

There is a very substantial feeling, with which I have no serious quarrel, amongst counsel, that it would be more desirable to deal with all of Dr. Rowe's evidence, that is to review all the deaths right through until the end of March in one go.

Now, in fairness to Dr. Rowe he had not expected that that would happen and he needs a bit of time to review those later charts, as indeed in frankness do I, Mr. Commissioner.

Therefore what I am proposing is that we complete as soon as possible this week the review



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of the pre-December 31, deaths, and at that point
break, whether it be tomorrow afternoon, perhaps
Thursday morning, in order to give Dr. Rowe and myself
the weekend to prepare the review of the charts for
the following week. Therefore Mr. Strathy's point
about going as far as we can this week doesn't
necessarily help me, we need that break in order to
get into the January 1, 1981 onwards deaths. Therefore
as I understand it you are suggesting we give our-
selves the cushion of Monday afternoon of next week.

THE COMMISSIONER: I think the
cushion on Monday afternoon would be better than
taking a chance and going into Friday.

MR. LAMEK: Yes.

THE COMMISSIONER: If there is a
strong feeling any way in any other direction I am
prepared to change it. It wouldn't of course be
fatal if by Thursday afternoon, I am not talking now
about this week, but next week, if we haven't finished
all of Dr. Rowe's examination, but it wouldn't help,
it would be vastly better to have it all in. I
didn't want to spoil what little holiday you were
given, but at least there would be no question that
we would have all of the evidence in so you can be
preparing your cross-examination. So let's start at



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about 2 o'clock, Monday afternoon next week. Now let's count on that and let's just proceed now. Yes, Mr. Scott?

MR. SCOTT: There is only one problem, Mr. Commissioner. We were doing the drawings at the Hospital on the assumption we would only be doing the first up to December the 31st step.

THE COMMISSIONER: Yes?

MR. SCOTT: And we will get on it and I anticipate with luck we will be able to have the drawings as we come to the cases. I will do some, Mr. Roland will do some at night and we will put them together in some way. So that if Dr. Rowe says next week that the drawing is inaccurate I know you will cast a disapproving eye in my direction.

THE COMMISSIONER: I will indeed. You will now be in Mr. Lamek's class because this is what he has been doing ever since this thing started.

MR. SCOTT: He has been making up quite a lot as he goes along and doing very nicely.

THE COMMISSIONER: All right, with all that preliminary now we will proceed.

MR. LAMEK: Thank you, sir.

Dr. Rowe, please?

--- [Dr. Rowe returns to the witness box]



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Q. Doctor, when we broke for lunch we were talking about the chart of Baby McKeil, and the outline of his course at Sick Children's Hospital and we followed him from the OR to the ICU on the day of surgery, September 22 and then back to Ward 4A from the ICU on September the 23rd.

Summarizing, and I hope without distorting his course back to the ward, am I right that the main problems which manifested themselves were continued congestive heart failure, poor feeding and persistent vomiting?

A. Yes.

Q. So on September 29th he was transferred to Ward 7C/D which I believe to be the Infectious Diseases Ward?

A. Yes, it is.

Q. Because he had developed an infection which I believe he had an adenovirus diarrhea and he was sent up there I take it so as not to infect other children on the Cardiac Ward?

A. Yes.

Q. And that problem appears to have resolved itself in the course of a week and on October 6th he came back to the Cardiac Ward?

A. Yes.



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Q And there his course continued to be bedevilled by poor feeding and continued vomiting and he continued in heart failure which the Hospital staff was attempting to control by diuretics and digoxin, I think?

A. Yes.

Q I think I am right too that on October the 14th, Dr. Freedom spoke to the parents of this baby and obtained their consent to carry out a second cardiac catheterization on him, but that in fact was never done because that night at 3:45 in the morning Baby McKeil suffered an arrest and could not be revived. Now, that is a very brief summary, but I think taking account of the fact of his summary as accurate, is it not, Doctor?

A. Yes, it is.



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Q. Now, I ask you on this chart as I asked you on the others, are there any particular matters on the charts that you think are important in considering what has to take up our interest here, the time and manner of this child's death?

A. I think the main points are that he had a lot of vomiting. That created sufficient concern on the Infectious Diseases Ward that I think they obtained a consultation from a gastroenterologist.

Q. Yes.

A. That symptom seemed to occur, as you have pointed out, and may perhaps explain the relatively frequent digoxin levels that were obtained throughout his stay.

Q. I'm sorry, Doctor, I don't understand that. Could you say that again, please?

A. Well, his vomiting led to, I would think the explanation for a large number of digoxin levels been obtained, he was obviously difficult - when somebody is vomiting, it is difficult to control their electrolyte situation in the body and there's a high risk that the electrolytes would be disturbed to a degree that might affect the toxicity of the drug given in usual doses. That point I think comes through. The vomiting itself is



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3 not necessarily related to the digoxin levels borne
4 out by one level taken at a time when he's having
5 a lot of vomiting to 1.9, but apart from his vomiting
6 and poor intake which is causing a lot of concern,
7 he was continuing to display heart failure and he
8 wasn't doing well.

9 I think towards the latter part of
10 his time, he had some digoxin withheld for one dose,
11 which is fairly typical of the situation where there
12 is a bit of concern about the effect of the general
13 status on digoxin activity. I think those are the
14 main issues.

15 There is a comment by a resident
16 the day before the death, about two days before
17 the death I suppose in which electrolytes were done.
18 I guess it's a comment from a nurse, electrolytes
19 were done and an electrocardiogram was taken.

20 So, there was that concern being
21 issued and obviously Dr. Freedom had concerns about
22 why, what the reason was for the baby continuing to
23 do so badly. If it was just a double outlet he would
24 expect I think a stormy course but this was
25 obviously not responding well to the usual measures
and so that I think was why he decided to restudy to
see if there was something that in fact they might be



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missing.

Q. Yes.

A. Or some altered status in the dynamics that would have accounted for the poor control of this failure. But it clearly was a case of a baby in rather poorly controlled heart failure.

Q. Doctor, thank you. You have told me what you think we should have in mind when considering the death and the manner of death of the child. Could we look please at the terminal events?

A. Yes.

Q. May I start at page 80 of the record. In fact the arrest note is on page 78 and on page 79 but I start at page 80 because in terms of the period to which that note refers it precedes the time of the cardiac arrest. It is again a note by Nurse Nelles covering the period from 7:00 p.m. on October 14 to 3:45 a.m. on October 15 and obviously written some time after 3:45 a.m. since it follows the arrest notes.

A. Yes.

Q. And Nurse Nelles records that the baby had been kept nothing by mouth overnight except for diuretics which were given orally at --



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is that 8 o'clock or 10 o'clock - I think 10 o'clock, the IV was infusing well into a scalp vein, the heart vein apex 138 to 147 and regular throughout the evening. The behaviour of the baby appeared alert and bright, no noted cyanosis, he was in 40 per cent oxygen. At 3:45 - well, let's pause there. It appeared from 7:00 to 3:45 in the morning, as was covered by that note, it does not appear there was any cause for immediate alarm in that period from the note, does it?

A. No.

Q. Indeed, if anything, the baby seems to be remarkably well settled after the kind of history that we've been looking at?

A. Yes.

Q. That you've been referring to?

A. Yes.

Q. 3:45 in the morning Nurse Nelles records the alarm sounded on the monitor and the apex was reported as approximately 80 to the minute in that range. She listened for the heart beat, she says it was regular at approximately 120.

Now, whether 120 was the actual regular rate and if it dropped to that or whether 80 was the actual rate or whether it was fluctuating



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2 between the two on a regular basis, certainly there
3 had been a slowing of the rate at that point in time,
4 had there not?

5 A. Yes.

6 Q. She notified Dr. Telch, she
7 said and he came. She records that the heart rate
8 again dropped and this time when she listened no
9 beat was heard and the monitor indicated fluttering.
Is fluttering something like fibrillation?

10 A. I would think so.

11 Q. Yes. Now, at that point a
12 Code 25 was called and the Resuscitation Team
13 arrives and resuscitation attempts are started and
14 at that point of course she turns the recording of
15 events over to the Resuscitation Team.

16 So fairly chronologically, I think you
17 would conceive there was a sudden onset of these
events.

18 A. Yes.

19 Q. At about 3:45 in the morning?

20 A. Yes.

21 Q. We go back to page 78 and
22 we get to the note of the arrest team. There are
23 two times stated, 3:45 and 3:50 and maybe the
24 difference between receiving the call and arriving at
25



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2 the, what I don't know. But they record:

3 "Extreme bradycardia, spontaneous
4 gasping, cyanosed, ECM, bag and mask
5 oxygen being given."

6 And then they proceeded to set out
7 what they did and what change they administered.

8 " - No response, extreme bradycardia
9 with about five times and then it
10 complexes."

11 Now, can you explain please what a
12 super ventricular complex is?

13 A. I assume he means that just
14 no ventricular signals.

15 Q. And, the depressingly
16 regular statement "no response", "no response".

17 Now, Dr. Heilbut also has a note:
18 "Course of events as described above.
19 Because of continued failure in spite
20 of vigorous therapy, a decision had
21 been taken yesterday afternoon to do
22 a cardiac catheter on Thursday. Parents
23 were also aware of the toxic dig
24 level..."

25 And I'll come back to that.

"ECG in morning showed NSR in marked



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"strain. The ST elevated and inverted
T right through the chest leads."

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Now, could you explain those ECG
observations for us, Doctor?

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A. I'll have to look at the
electrocardiogram to check it.

8

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Q. The words "NSR in marked
strain" don't mean anything?

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A. Normal sinus rhythm in
marked strain she says. I'm not quite sure what
she means by it but I can have a look at the cardio-
gram and tell you.

13

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Q. If you could, Doctor, that
would be a help, please.

15

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A. The electrocardiogram, I
think she is probably referring to the inversion.

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Q. Are we looking at page 207,
Doctor, which has a manuscript date at the top 14/10/80?

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A. Yes, 207, I am sorry.

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Q. Thank you.

A. In that electrocardiogram
there are T waves that are inverted in a number of
the leads which could be interpreted by some people
as strain. I would say that they are non-specific
T wave abnormalities. I don't like the term "strain"



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2 in this circumstance because there is no great -
3 we usually associate the word strain with
4 hypotrophy of the heart.

5 Q. Yes.

6 A. And there was no major
7 hypotrophy change here. But there is abnormality
8 and if one compares that with the electrocardiogram
9 on page 212, there is no doubt that the appearance
10 of the T waves in that electrocardiogram are
11 different. Now, that's on the 29th of September.
12 The electrocardiogram on page 210, which is I think
13 the time of transfer, 29/80 shows abnormal T waves
again.

14 Q. Doctor, I'm prepared to
15 accept all of that on faith.

16 A. Well, we can have others
17 to give you confirmation of that if you wish.

18 Q. I would be very happy to
19 accept your word for that, Doctor. It's not exactly
20 clear when Dr. Heilbut wrote his note, although
presumably during the night he says:

21 "FD..."

22 which I take to be family doctor?

23 A. Yes.

24 Q. "...notified in morning, a.m."
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A. Yes.

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Q. "The parents will probably
come in in the morning to sign a consent for post
mortem?"

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A. Yes.

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Q. All right. Doctor, once again,
one of those sudden onsets of terminal symptoms
which seemed to pursue a rapid course and the child
cannot be resuscitated. Does that fairly summarize
the sequence of events?

11

A. Yes.

12

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Q. Doctor, are those events,
including the suddenness of their onset and the
rapidity of their course, consistent with Baby McKeil's
anatomical and clinical condition, in your view?

16

A. Yes.

17

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Q. Did you believe that the
death of Baby McKeil was attributable to his cardiac
difficulties and problems?

19

A. I believe so.

20

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Q. And bearing in mind what we
said this morning about the scope of this question
and the answer that you give, are the events, the
onset and their course also consistent with digoxin
intoxication?



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A. Yes.

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Q. Indeed, Doctor, you have

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adverted to it, but had there not been a continuing

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problem with digoxin and dosages and levels throughout

6

almost the whole of this child's stay at the

7

hospital?

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A. Yes.

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Q. If we look at page 133

of the chart, and unhappily the date of that very first order, the doctor's order, on my copy at least is obscured by the binding. It is apparent from the other side of the page, which is dated 3.9.80, this order was given either on the date of the child's admission, the 2nd of September, or on the 3rd, the first day after his admission.

There is an order there for digitalizing doses, is there not?

A. Yes.

Q. Three doses of .045 mg IV, one immediately and then six hours later and then fourteen hours later and, thereafter, a maintenance dose of 0.01 mg IV every twelve hours. That is the initial order on this chart, is it not?

A. Yes.

Q. At page 84 - and I'm going to be referring to three or four different places in this chart on a recurring basis, doctor - on page 84, in the medication sheet, it appears that the digitalizing doses were, in fact, given and, subsequently, on, I think, the 4th of September, the maintenance dose of .01 mg began.

A. Yes.



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Q. On September 5 - and I ask you now, doctor, to turn to page 37 in the progress notes - on September 5, in the middle of the page, I take it this is a doctor's note in the chart, is it, which is proposed to increase the digoxin maintenance dose from the .01 mg, which had been administered to that point, to .019 mg twice a day?

A. Yes.

Q. And that is virtually doubling the maintenance dose, is it not?

A. Let me just check that. .01 to .019 is essentially doubling it.

Q. And the note there records that those proposals, all four of them, have been discussed, or the digoxin and lasix dosages have been discussed with the Cardiology Fellow, who agreed with the proposal.

Therefore, on page 135 in the Doctor's Orders section of the chart, on that date, September 5, 1980 - in the lower half of the page - there is an order, "digoxin .019 mg", and also an order, "digoxin level today".

In fact, doctor, it appears that a sample was submitted for assay in the Biochemistry



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Department on that date. If you will turn with me to page 157 of the chart, it appears, unhappily, that the sample was not large enough to be tested and the report comes back "not sufficient quantity". That does appear to be the case, does it not?

A. It does.

Q. At that point, then, doctor, the digitalizing doses had been given, the maintenance dose had been given and virtually doubled but, as yet, no level had been obtained.

Doctor, I see no order in the chart or in the record repeating the request for a digoxin level following the nil return from Biochemistry for not sufficient quantity. But at page 158, apparently, there is a level recorded on a sample taken on the 8th of September, some three days later, that discloses a level of 2.5 nanograms per millilitre.

Do you see the level recorded there?

A. Yes, I do.

Q. And that, as I understand it, is a level above that which the Hospital, in its conservative judgment, regarded as the therapeutic range of blood level for digoxin.

A. Guidelines.

Q. Guidelines, of course. But,



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in fact, on September 10, going back to page 137 of
the chart, there is an order, No. 2 from the top of
the page --

A. Which page again is this,
please?

Q. Page 137, in the Doctor's
Orders, 10.9.80, "Started IV", but than, 2, "Hold di-
goxin, one dose."

Do you see the order there?
Doctor, if we can go back to the
progress --

A. I'm sorry, I'm missing
that. Page 137?

Q. Page 137. The third line
written on has a number 2, "Hold digoxin, one dose."

A. I'm sorry. Yes.

THE COMMISSIONER: I'm sorry, what
does "one dose" mean?

MR. LAMEK: I take it, do not give
the next scheduled dose.

THE COMMISSIONER: Does it not
mean that you carry on with dosages after that, doctor?

THE WITNESS: Yes, it usually
does. It means that.

MR. LAMEK: Q. You just do not give



CC5

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the next one that is due?

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A. That is right.

4

Q. On page 44, on that same

5

day, there is a note on which I would like your comment,

6

doctor. 10th of September, general surgery note. Was

7

this note made by a doctor or a nurse? Are you able

8

to tell me?

9

A. I would think it is a

10

Surgical Resident.

11

Q. After recording all sorts

12

of observations and history, a little over half-way

down the page: "Impression, vomiting. NYD."

13

Can you tell me what that is?

14

A. Not yet diagnosed.

15

Q. Not yet diagnosed. But

16

then the writer of the note appears to canvass three

possibilities. The first one, as I read it, is

17

"pyloric".

18

A. Yes.

19

Q. What would that mean?

20

A. There might be a tumor,

21

a pyloric tumor, just outside the stomach, just beyond

22

the stomach, in the bowel, which causes a constriction

and results in vomiting.

23

Q. The second possibility

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CC6

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canvassed is "digoxin".

A. Yes.

Q. With a marginal note of
"level only 2.5".

A. Yes.

Q. Rather indicating that
he does not think that is likely the cause, at that
level?

A. Yes.

Q. And, thirdly, some
obstruction for which an X-ray would be needed.

A. Yes.

Q. But it does appear, does
it not, doctor, that some Surgical Resident, on the
10th, had at least considered the possibility of
digoxin or response to digoxin being responsible for
the vomiting?

A. Yes.

Q. Because, again, although
totally non-specific to digoxin toxicity, vomiting is
a known symptom of digoxin toxicity, is it not?

A. Yes.

Q. On page 45, there appears
to be another note, which, again, I take to be by a
doctor involved in the cardiovascular surgery end of



CC7

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things:

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"X-rays from today reviewed and are normal. There is no evidence of bowel obstruction. Think we can pull NG."

Is that the nasal-gastral tube?

A. Yes.

Q. "If vomiting persists, we should get UGI."

Then a comment:

"I agree with the above. Could patient be digitoxic?"

So, the question is apparently raised again by someone, again on the 10th of September --

A. Yes.

Q. -- as a possible explanation for the vomiting.

A. Yes.

Q. Do you have any comment on those suggestions on that date, doctor?

A. I think those are not unreasonable requests. In somebody who is doing a lot of vomiting sufficient to cause a consultation with the General Surgeons, because it was the Chairman of the Department of Surgery who raised the question



CC8

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of toxicity. I think, if they can't find a good explanation, that would have to be pursued.

Q. But at least they appear to have been entertaining it as a possible explanation for the vomiting?

A. Yes.

Q. We observe that, on September 10, there had been an order to hold digoxin for one dose. I confess I'm rather confused as to whether that order was carried out because, if you will turn to page 85, the right-hand column is dated 10.9, which I take to be September 10, and the fourth item down is "digoxin, 0.019 mg." If you read across, the second dosage on September 10 originally appears to have had the notation "hold". Then that is crossed out and it is "given by..." somebody or other. It may have been that the dose was given after all, doctor.

A. It looks as though it has been. That is how I would interpret it, yes.

Q. And on page 85, the second last entry on the page, the date in the left-hand margin being the date of the order, shows that on September 10, the order appears to have been for .015 mg IV twice a day but then "DC", which I take it means discontinued.



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A. I have lost you again,
I'm sorry.

Q. The second last entry
on page 85 --

A. Yes.

Q. -- is an order of September
10 --

A. Yes.

Q. -- for a reduced dose of
digoxin, .015 mg, but the notation under the date
portion is "DC". Does that mean discontinue in these
drugs?

A. That is what that should
mean.

Q. I must tell you, doctor,
I am having a little bit of trouble understanding
where there is consonance between the doctor's
orders as they appear in the Doctor's Orders section
of the chart and what appears to have been happening
in the medication sheet. The order on the 10th of
September from page 137 was initially "hold one dose
of digoxin". Later on that day, there is an order
for the reduced dose, to give "digoxin .015 mg IV,
q-12-h", but I see no order to discontinue digoxin,
although, from the medication sheet, that appears to



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have been what happened.

A. Yes.

Q. Going on, doctor, still at page 137 on the Doctor's Order sheet, the next day, September 11, there is a new order with respect to digoxin, reverting to the original dosage level of .019 mg, and, at that point, is it fair to say that no digoxin level had been obtained since the 2.5 nanogram level on September 8?

A. I believe that is true.

Q. On page 86, going back to the medication sheet, that order is shown as having been given and having been followed.

At the top of the page, the first entry on page 86, 11.9 is the date of the order, "Digoxin 0.19 mg" appears to have been given right through the 11th, 12th, 13th, 14th and 15th and, indeed, when I drop to half-way down the page, it is continued there, is it not, "Digoxin 0.19" given on the 16th and once on the 17th?

A. Yes.

Q. And there is then a series of three held doses and, finally, on the 19th "DC", discontinue.

That seems to have been the pattern



CC11

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of administration there?

A. Yes.

Q. Doctor, the "hold" order
for September 17 appears on page 138 of the chart.
A little under half-way down the page under the date,
17.9.81, "Hold digoxin times 3 doses". That would
account for the three held doses on the medication
sheet, would it not?



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Q. And then the following page and I will get to that in a moment, but on September 16th that had at last been a level recorded, and would you turn with me to page 159. It appears on September 16th a sample submitted on that day had been assayed and produced a level of 4.6 nanograms per millilitre?

A. Yes.

Q. And that I take it Doctor is substantially above the guidelines for the therapeutic range?

A. It certainly was at that time.

Q. That I take it is a level that would have caused sufficient concern for some investigation and that no doubt was the reason for the order to hold the next three doses of digoxin?

A. Yes.

Q. On the next order, again on page 138 it is dated 18.9.80, immediately below the last one we looked at. It says:

"Restart digoxin on September 19th at 0.015 milligrams orally twice a day."

Do you see that order, Doctor?



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2

A. Yes, I do.

3

Q. The dose is back down to

4

.015 from .019.

5

It appears from the medication sheet,
on page 87 that that order was followed on September
the 21st, the first entry on the page I believe.

6

7

A. That is on page?

8

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Q. Page 87, it was given on

10

September 19, September 20 and on the morning of
September 21, and then withheld because the child
was going to surgery on the 22nd.

11

12

A. Yes.

13

Q. Now Doctor, at this point

14

I suggest the possibility of digoxin toxicity
occurred to somebody else and I refer you to page
49 in the progress notes and at the bottom of the
page 18.9.80 refers to:

15

16

17

"Congestive heart failure, vomiting;

18

decreased since 17 September; tolerating

19

small amounts by mouth..."

20

And the next symbols defeat me I am afraid. Something
of "...intake...", no NG tube. Then:

21

"Vomiting most likely due to increased

22

dig level, restart dig at lower doses."

23

Have you any idea whose note that is

24

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please.

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A. I have lost you again, this

4

is page 50?

5

Q. Page 49, I am sorry, the

6

bottom of the page.

7

A. Yes.

8

Q. The last note on the page,

18.9.80, the very bottom:

9

"Vomiting most likely due to increased

10

dig level, restart dig at lower doses."

11

Do you see that?

12

A. Yes.

13

Q. Do you know whose note that

is?

14

A. Yes that is, I imagine Dr.

15

Stern.

16

Q. And who is he, please?

17

A. Dr. Stern at that time I

18

think was a resident paediatric, he was subsequently

19

a Fellow in Cardiology, that is why I am trying to

20

remember when he started with us, I think that is

when he was a resident with us.

21

Q. He appears does he not to

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have a little more confident of his view than those

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who had earlier mentioned this as a possibility,

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earlier references had been to question whether the digoxin may be causing vomiting. This resident regarded the vomiting as most likely due to elevated dig level, do you have any comment on that please?

A. No, I think that is a point of view and he may be right. I find it difficult to believe he felt quite as strongly as that. He simply reduced, continued the digoxin but at a lower level.

Q. And wasn't the difficulty here, trying to find that maintenance dose which would help control the congestive heart failure without producing toxicity?

A. Yes, it was very difficult.

Q. Am I wrong, what I seem to be seeing throughout this whole cause is a constant process of understandable trial trying to find that dose and adjusting it upwards and downwards and hoping the next reading I will get the right level, isn't that what I am seeing here?

A. Yes you are.

Q. Therefore, when he suggests restarting the dig at lower doses, is he not acknowledging digoxin as important to this child and his heart failure but we have got to find a lower



1
2 dose that may not cause any toxic reaction, is that
3 the problem, is that really the problem he is trying
4 to resolve?

5 A. I think that is what he is
6 probably thinking, I mean, as far as I can judge.
7 One would not want to take that sort of baby off
8 digoxin altogether.

9 Q. Then at page 51 there is
10 a note on September the 20th, the Nursing Note and
11 perhaps we can read this Doctor:

12 "Vital signs - stable except period
13 at noon where respiration increased
14 93-91-87..."

15 At first that looked like a decrease to me rather
16 than an increase:

17 "...and then gradually decreased,
18 went down 66-70."

19 Oh yes, it went up to 93, I see, it went up to 93-91-
20 97 and gradually decreased to 66-70:

21 "One later episode of tachypnea when
22 very upset. Respirations now stabilized
23 around 75/min. Original increase
24 occurred at time of vomiting by
25 emesis. Results from dig level indicated
elevated level."



1 Now, Doctor, whatever value one may
2 attach to it it does appear at least that someone
3 else is also thinking in terms of a connection between
4 digoxin levels and the vomiting, does it not?

5 A. Yes.

6 Q. Now we saw that the digoxin
7 was withheld the day before surgery, September 22nd.
8 The next order is following surgery and admission to
9 the ICU and there is an order for a new and lower
10 maintenance dose of digoxin and that is found at page
11 139, where three quarters of the way down the page
12 under the "Admit ICU" order there is "medication
13 digoxin" originally written as ".015" and crossed
14 out and substituted ".012", do you have that one,
15 Doctor?

16 A. Yes, I have.

17 Q. And that is to be
18 administered IV twice a day. According to the med
19 sheet at page 88 and it is the second entry in the
20 left hand column on page 88: "Digoxin .012 milligrams
21 IV BID" that dosage was administered in the afternoon
22 of September 22nd until the evening of September 24th,
23 apparently not administered on the morning of the
24 25th and there is a notation "hold". Do you see that?

25 A. Yes, I see that.

Q. And the hold order appears



1
2 at page 145 if you want to check that the 25th of
3 September. "Hold one dose of digoxin please".

7
4 Doctor, the explanation for that
5 hold that appears in the biochemistry report on page
6 161 where on the 24th of September a sample submitted
7 yielded an assay result of 2.5 nanograms, would that
8 be the reason in your view for holding the next dose
9 of digoxin?

10 A. I don't know, I would assume
11 that is a reasonable reason for it but I don't see
12 any note.

13 Q. No, I don't see any
14 particular reference to that.

15 A. Again I know, the question
16 of what you do with digoxin levels in that range
17 depends upon the clinical status of the baby. Really
18 to get that sort of detail that you are now asking
19 me to provide, you really would have to ask the
20 physician who was involved with the care of the
21 patient.

22 Q. I understand, Doctor, and
23 I recognize that you are not involved in that for
24 this patient. Nevertheless when one sees mildly
25 elevated digoxin levels notwithstanding a reduction
in the maintenance dose, may one not reasonably infer



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that a hold, one hold the next dose order is not
unrelated to the recorded level on the same day?

A. No.

Q. I am sorry, may one infer
that?

A. Yes, one may.

Q. Now, the orders then on
page 145 and following I am afraid are not terribly
legible, but it does appear from the medication sheet
at least on pages 88 and 89 that digoxin was re-
started on September the 26th, does it not, at the
bottom of the page. Although interestingly going back
to the earlier higher dose of .015 milligrams.

A. Yes, that's what it looks
like.

Q. Yes. Doctor, in light of
the mildly elevated level which had been recorded
after maintenance dose of 0.012 milligrams, do you
find it surprising that when digoxin was resumed it
was resumed at a higher maintenance dose?

A. Yes, a little. I would, if
you just read the notes you would wonder there unless
there was something that changed in the degree of
failure that led the physician to decide on the higher
dose, that is the only other explanation for that.



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Q. Interestingly enough and

3

thankfully, it seems to have worked, because that

4

day the level is recorded as shown at page 162 and

5

it says 1.9 on September the 20th, I'm sorry, a couple

6

of days later 1.9 level is recorded and that is

7

essentially ---

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THE COMMISSIONER: I am sorry?

9

9

MR. LAMEK: I am sorry.

10

THE COMMISSIONER: Where is the latest

11

order for restarting the digoxin, what page, is that

145?

12

MR. LAMEK: No, Mr. Commissioner, the

13

order is I am afraid one of the illegible pages around

14

page 145. If you look at page 88, sir, which is the

15

medication sheet, at the bottom of the page the very

16

last entry records that on September 26th there was

17

an order for digoxin doses of .015 milligrams that

18

is PO, orally twice a day BID and that appears to

19

have been given, if you read over to the right side

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of the page, twice on the 26th and then if you look

at the top of the next page twice on the 27th and

was then withheld on the 28th. Do you see the page?

21

THE COMMISSIONER: No.

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MR. LAMEK: At the top of page 89

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the order is repeated.

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THE COMMISSIONER: Hold it.

MR.LAMEK: Which means really it is continuing, and then on the 28th there is a hold order, and I would take it Doctor that would hold until the level came down.

THE COMMISSIONER: Is that the 28th?

MR. LAMEK: The 28th ---

THE COMMISSIONER: Is that it, do we have a time?

MR. LAMEK: I'm sorry, Mr. Commissioner.

THE COMMISSIONER: It is 9 o'clock, it is hold at 9 o'clock whereas it is at 2 o'clock is it not that the level of 1.9 is obtained.

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BMB.jc
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MR. LAMEK: That's right.

THE COMMISSIONER: And so that
probably it's ---

MR. LAMEK: It's held in order to
enable the sample to be taken after distribution, I
would take it, or so that the administration in the
morning doesn't interfere with the validity of this
sample. Is that a reasonable inference, Doctor?

THE COMMISSIONER: Well, I had better
let the Doctor answer this but if you look at the
time, at 2 o'clock the sample is taken and at - unless
I've got this wrong - at 9 o'clock the order is made
on the same day to hold.

MR. LAMEK: Yes.

THE COMMISSIONER: So, it seems to me
that the hold order follows the taking of the sample
and the information about 1.9. Am I right?

MR. LAMEK: I see your problem,
Mr. Commissioner.

THE COMMISSIONER: It seems to me
that instead of 1.9 being an improvement, 1.9 is the
cause for alarm.

MR. LAMEK: I would not have thought
that. I would have thought 1.9 following a 2.5 level
was a welcome sign, wasn't it, Doctor?



EE, 2

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THE WITNESS: Yes.

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MR. LAMEK: Q Because this is right
on the upper guideline for a therapeutic level.

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But can you explain to the Commissioner
the cause of his concern and, indeed, mine, that if
you look at the medication sheet on page 89, the
dosage which appears to be "hold" is the one which
would have been given in the evening?

9

10

11

A. Yes. I don't understand what
there is a blank there for what seemed like initials
"CC".

12

13

14

Q Indeed, would it not have made
more sense had the morning dose been held so as not
to distort the reading in the sample taken in the
early afternoon?

15

16

17

A. Yes.

Q And that may be the explanation,
it may just be the "hold" is in the wrong place?

18

19

A. I suppose.

Q. Yes.

20

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THE COMMISSIONER: I have lost the
progress somewhere. 1.9 is, certainly under the
Handbook, right on the verge of becoming toxic.

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MR. LAMEK: That's right.

THE COMMISSIONER: And somebody could



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easily have been looking at the reading 1.9 which they get by telephone and seeing "hold digoxin". I don't know what the state was. I have now lost track of when the last dosage was.

MR. LAMEK: It was 015.

THE COMMISSIONER: Zero ...

MR. LAMEK: 015.

THE COMMISSIONER: And that was given at 9 o'clock on the 26th, given at 9 o'clock on the 26th and then at ...

MR. LAMEK: Nine and nine, morning and evening.

THE COMMISSIONER: And 12 hours later - I'm sorry, not 12 hours later but 5 hours later they take the test at 1.9. That is communicated and at 9 o'clock the order goes out to hold digoxin.

MR. ORTVED: Well, Mr. Lamek, page 147 shows the order is 12 o'clock noon on the 28th of September.

MR. LAMEK: I'm sorry, what page?

MR. ORTVED: Page 147.

MR. LAMEK: I was hoping one of these would be legible.

There is a barely legible order on page 147, Mr. Commissioner.



EE.4

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THE COMMISSIONER: You will have to tell me which of those three because I don't find any of them.

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MR. LAMEK: I think it is the top one.

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THE COMMISSIONER: The top one?

7

MR. LAMEK: And all I can discern from it is in the third line of the order. It says:

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"Hold one dose of digoxin",

9

but more than that I can't read.

10

MR. ORTVED: I believe on my copy it

11

reads, on the top line, the time order written, 28th

12

of September, 12 o'clock. That's what I interpret

13

that to read.

14

MR. LAMEK: Okay. It may be therefore

15

hold the order until we get the level because if

16

the sample wasn't taken until 2 o'clock in the

17

afternoon, as appears from the Biochemistry report,

18

it may not have been received that day, I don't know,

19

Doctor, what is the drill?

20

THE WITNESS: We would have had that information back.

21

MR. LAMEK: Q You would not have had that information back that day?

22

A. They may have had that infor-

23

mation back later in the day.

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Q All right. Well, in any event, the dosages resume, according to the medication sheet, on the 29th and continue on the 30th and October 1st, do they not?

A Yes.

Q And, indeed, looking half way down page 89, they continue again on the 2nd and on the 3rd of October and are then discontinued on October 4th?

A Yes.

Q Now, there had been a blood sample sent on October 2nd for a level and at 162 it appears that one too is too small a sample, it is not sufficient quantity and, therefore, that dig level could not be recorded on the 2nd of October.

The sample was repeated, or a new sample was sent on the 3rd of October and on page 162 it appears that that level was 3.4.

Doctor, we may have some help in that because the nursing notes record that that sample was drawn an hour after a dose had been administered.

A Yes. I can see that at 10:15 it was the wrong time.

Q Yes. If you are dosing at 9 o'clock in the morning you shouldn't be drawing your



EE.6

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sample a little after 10 o'clock?

A. No.

Q. So, the 3.4 reading, although alarming at first sight is really a meaningless level, I take it?

A. Yes.

Q. Thank you. But in the meantime ---

MR. MARSHALL: I'm sorry, Mr. Lamek, what page is this on, that last item?

MR. LAMEK: Page 162.

THE COMMISSIONER: 162, it is at the right-hand side.

MR. MARSHALL: All right, I'm sorry.

MR. LAMEK: Q. But it is at about this time, Doctor, early in October that someone else thinks this baby may be exhibiting symptoms of digoxin toxicity. If you look at page 65 in the progress notes. Now, there is a signature at the foot of that note, right down at the bottom of the page, do you recognize that signature?

A. Page 65?

Q. 65.

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A. No, I don't.

Q. Does this appear to be a nurse's note or a physician's note?



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A. There's no RN after it, so, I assume it's a physician. It does a lot of calculations and things so, I think that is a reasonable assumption.

Q. Thank you. The note begins at the very top by observing the baby has been vomiting feeds and then, as you say, calculations, observations, recordings.

Down at the bottom "vomiting? cause" "not in heart failure" "dig level 28/9/80 - 1.9".

"Ther level" which I take to be an abbreviation for therapeutic level "0.5 - 2.5 nanograms per millilitre". Must have been looking at something other than the Resident's Handbook, I take it?

A. Probably.

Q. But then over to the right "Plan (1) urine - microscopy".

"(2) Try a clear fluid and if tolerated milk again. If not tolerated think of dig toxicity and do ECG - also reduce fluid volume by feeding every two hours."

So fairly once again, beginning of October it appears that someone is contemplating the possibility that this child may be exhibiting, by vomiting, a symptom of digoxin toxicity, does it not?

A. Yes, this is when the baby is on Infectious Diseases Ward.



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Q. Yes.

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A. Right.

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Q. And I take it at that stage with this child not an unreasonable possibility to be contemplating, Doctor?

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A. Well, I'm not sure that I agree with that entirely. I think that one always has to think of digoxin toxicity when you're dealing with sick babies but this has been going on and on and on, the digoxin levels have not been extraordinarily high. I mean, I think they have been fluctuating all over the place but there has not been any other evidence of digoxin toxicity that one can see, irregularities and so on.

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So, I think that there is a persistent concern by the resident staff. I would like to have seen a staff cardiologist somewhere in here to see what the thoughts were by the staff because I don't think personally that I could accept that the vomiting was entirely related to digoxin in a situation that it fluctuated as much as this.

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Q. All right, Doctor. Could we go back to page 141 to the doctor's orders. It seems that after the flurry caused by the 3.4 nanogram reading, until it was recognized that that sample had



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been taken at an unfortunate time, following that on October the 5th, I believe, there is an order to administer a dose of digoxin .015 milligrams. Does that appear to be an order for a single dose?

A. Yes, it does.

Q. Right. On page 149, an order on October the 6th, middle of the page, to restart regular doses of digoxin, at a dosage of .014 milligrams. Do you have that, Doctor?

A. Yes, I do.

Q. So, the regimen of maintenance doses appears to have been resumed pursuant to the order given on the 6th of October?

A. Yes, when it came back to the Cardiac Ward.

Q. Yes. And the dose is slightly reduced from the .015 and it appears from the medications chart page 90, that that dose was given until October 12th when it was held?

A. Yes.

Q. And then restarted again on the 13th and 14th and finally discontinued on the 15th?

A. On the 14th.

Q. I am sorry, the 14th, you're absolutely right, the afternoon dose on the 14th



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isn't given and there is a DC, discontinued.

A. Yes.

Q. Now, the levels recorded on samples in that period, October 6 and 8, are found on page 163, and no doubt for everybody's great relief it appears that a happy level has now been found 1.2, 1.3 are recorded on the 6th and the 8th of October?

A. Yes.

Q. But then, I suggest, the roof falls in, Doctor, because on page 164 the next level recorded is on the 14th of October, after continuation of the maintenance doses we have just seen it is greater than 4.7?

A. Yes.

Q. That's the highest level recorded yet.

A. Yes.

Q. On this baby, is it not?

A. That is.

Q. And we don't know how much higher than 4.7, do we?

A. No.

Q. But it is significantly above a therapeutic level, is it not?

A. Yes.



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Q And oddly enough the digoxin is discontinued on October 14th, or not oddly at all, understandably?

A Understandably, yes.

Q And the baby died that night.

A Yes.

Q Now, Doctor, that is obviously a very frustrating sequence of events. It appears, if I may say so and tell me if I'm wrong, that the physicians were desperately trying to find the right maintenance dose for this child and until the first week in October they were consistently finding, were they not, levels slightly elevated over the upper guideline for a therapeutic range?

A Yes.

Q And there are suggestions in the chart, are there not, that the vomiting and the respiratory difficulty that appeared to have accompanied the vomiting resulted from digoxin toxicity. That question is raised a number of times in the chart?

A It is.

Q Doctor, can you confidently say that that was not so?

A You can't exclude the possibility.



EE.12

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Q. Right.

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A. The fact is though that there

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were so many different levels when the baby was

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vomiting that the question is, I think, should be

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seriously addressed as to whether there is another

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explanation other than digoxin.

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Q. Sure. And then finally when the

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problem appears to be solved, and we've had two

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perfectly satisfactory levels taken, a sample is taken

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during the baby's last day of life and it shows a

level of more than 4.7 nanograms per millilitre.

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A. Yes.

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Q. Doctor, quite apart from any

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suspicion of deliberate wrongdoing, let's put that

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entirely aside, with that pattern of up and down

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digoxin levels, with the pattern of terminal symptoms

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displayed by Baby McKeil and, in particular, with the

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digoxin level that is recorded in its blood on the

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last day of its life, is it not likely that digoxin

intoxication at least played a part in that baby's

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death?

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A. I do not know that I can say either. The reason I say that is because there is a level on the 16th of September, if I'm not incorrectly stating it, where the level was 4 point something - 4.6.

Q. Yes.

A. And therefore there is a level of maybe the same or somewhat similar value and we don't have any similar set of symptoms.

Q. Except, Doctor, you cannot say maybe of similar value because all we know of the October 14 level was that it was more than 4.7.

A. Yes.

Q. It may have been 4.9 or it may have been 6 point something.

A. Yes.

Q. There is no way of knowing, is that not so?

A. Yes.

Q. When you read this chart, Doctor, did not the possibility of digoxin involvement in the death occur to you?

A. I don't believe that I read that sort of detail in this chart because this chart was only reviewed, or parts of it, for the January



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meeting, but at the time of the death I would not
have done that.

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I think that, although I do not recall
exactly what the conversations were on the morning
after the death, or the first conference we had
after the death, I would suspect that there must have
been some comment about the digoxin issue and it
might have been felt there was some contribution.

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Q. Doctor, when you say you do
not recall the specific detail of that, do you recall
whether there was such a discussion, whether you
recall the detail of it or not?

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A. I cannot recall.

Q. Looking now at the chart in
the way that we have done, does it occur to you now,
Doctor, that the involvement of digoxin in the
death of this child, saying nothing about the
dosage or the means or purpose of the administration,
the involvement of digoxin in the death of this
child is a possibility?



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A. Yes, I think that is right.

Q. Could you put it any higher than a possibility?

A. No, I think it may have been - it is conceivable that it could have been a contributing factor. I do not think it is very likely but I think it is conceivable.

MR. LAMEK: Mr. Commissioner, I propose to go on to another case. I see that I have gone far beyond the normal break time. Would this be time for a short break?

THE COMMISSIONER: Why don't we take - would 10 minutes be enough?

MR. LAMEK: Thank you.

---Short recess.

---Upon resuming.

MR. LAMEK: Q. Just before we leave the McKeil hospital record, Dr. Rowe, you still have that before you, do you?

A. Yes, I do.

Q. You told me that the terminal events and their course, of Baby McKeil, were consistent with digoxin intoxication in the way that you meant that and explained it earlier today.

You had earlier said, I think, that



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2 the electrocardiogram taken on October 14, the day
3 preceding the night on which the baby died, do not
4 display those characteristics you would expect to
5 see in the case of digoxin intoxication. That is at
6 page 207, I think.

7 A. Yes.

8 Q. Could you perhaps tell me,
9 do those ECG tracings, are they characterized by
10 what you would expect to see on the ECG of a child
11 who was suffering from digoxin intoxication?

12 A. I think digoxin effect on
13 electrocardiogram is a different thing from intoxica-
14 tion. In other words, you could have in a baby that
15 was getting digoxin some changes in the electro-
16 cardiogram which do not really reflect any toxic
17 effect, but if you get very high levels of digoxin
18 you expect to see lengthening of certain intervals in
19 the electrocardiogram, the PR interval, for example,
20 which is an interval from the onset of the electrical
21 activity in the atrium to the onset of electrical
22 activity in the ventricle. That should prolong -
23 or that you should get block or something of that
24 sort, if you had very high levels.

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26 I think that I would be surprised
27 if that electrocardiogram was consistent with levels
28 of something above 4.6, but that is all I can say.
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THE COMMISSIONER: I'm sorry,

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Doctor. Are these the sort of readings that could --

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THE WITNESS: Those are the sort of

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readings that are compatible with digoxin effect

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but not characteristic of digoxin toxicity.

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MR. LAMEK: Q. But do they preclude
digoxin toxicity?

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A. They do not altogether, but
high levels that were enough to cause a baby to die
you would think should have been reflected in a
more important fashion than we see there.

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Q. I think my question to you
at the end was the possibility of involvement of
digoxin in the death, not necessarily is the only
cause of death but as an element in the cause of
death. Do those ECG tracings preclude that
possibility?

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A. No, they do not.

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Q.. Thank you.

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May we move on then, please, to

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Antonio Adamo, and once again there is a diagram
on the easel there, Dr. Rowe, purporting to be a
depiction of the heart of that child.

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Can you tell me first, from your

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review of the chart, whether that is a reasonably

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accurate depiction of the abnormalities in that
child's heart?

A. I think this time we have
that.

MR. LAMEK: And may that be the
next exhibit, please, Mr. Commissioner?

THE COMMISSIONER: Exhibit 76.

---EXHIBIT NO. 76: Heart Diagram of Antonio
Adamo.

MR. LAMEK: Q. Doctor, even I can
see the first thing wrong with that child, but
perhaps you could describe the anomalies and
deformaties for us, please?

A. The very obvious difference
from normal here is that the heart has its apex
directed to the right, and in fact the heart has
its major proportion in the right chest so it is
known as dextrocardia. So that is the first issue.

There is in this baby, but not
demonstrated on this diagram, a condition known as
situs inversus in which the abdominal organs are
also reversed in mirror image so instead of the
stomach being on the left, the stomach is on the
right. Instead of the liver being on the right, it



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2 is on the left. So it is a complete mirror image
3 of the abdominal contents. In itself that has no
4 importance to the patient but it is part of the
5 general reason why the heart is in the right side
6 of the chest.

7 In addition to that there are major
8 defects within the heart. There is a complicated
9 internal anatomy which I think is reasonably well
10 described here in this diagram. There is a huge
11 ventricular septal defect, here and here, such as
12 to almost make that chamber a single chamber but in
13 fact it has been categorized as a ventricular defect
14 with double outlet ventricle, right ventricle, this
15 ventricle.

16 So the aorta and the pulmonary artery, come
17 off this right side of the pumping chamber and there
18 is no great artery coming off the left side. The
19 pulmonary artery is small and that is because there
20 is pulmonary stenosis both at the valve and below
21 the valve, in the muscle below the valve. So there is
22 a considerable narrowing of the outlet of blood
23 from the pumping chamber to the pulmonary artery
24 giving rise to pulmonary stenosis. There is atrial
25 inversion, meaning that the right atrium is on the
left side and the left atrium is on the right side



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2 and the vena cava on the left side instead of the
3 right as normally, and there is an atrial septal
4 defect as well.

5 So you have what we would call
6 dextrocardia with complex pulmonary stenosis. I
7 think that is the simplest way to describe it.

8 The course of the circulation would
9 be that the venous blood would come into the right
10 atrium on the left side here, pass down into this
11 chamber here, be pumped over into this chamber here
12 and out into the two great arteries. But because
13 there is obstruction to outlet for the lung,
14 from the pulmonary stenosis, there is not so much
blood getting through to the pulmonary arteries.

15 The blood comes back from the
16 pulmonary arteries and comes into the left atrium
17 on the right side and down into this pumping chamber
18 where it mixes with the blue blood that has come in
from the other side.

19 So again, it is the situation where
20 mixing of blood occurs at the ventricular level, of
21 blue blood and pink blood, and the eventual colour
22 of blood or the state of oxygenation of blood that
23 gets out of the aorta depends on how much blood
24 is getting to the lung. If you have a lot of blood
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2 going to the lung then the blood reaching the aorta
3 will be a fairly high mix or, say, 80 per cent
4 oxygen. If there's very little blood going out to
5 the lungs then the mix will be less because there
6 will be less blood coming back to mix with the blue.

7 So in a very real sense it is a
8 malformation more complicated than the usual blue
9 baby condition but it's rather similar to the mal-
10 formation, in function, that we saw with Baby Velasquez.

11 Q. Thank you. Again trying to
12 put the course into short compass initially to get
13 an overview of the thing, the child was admitted
14 to the hospital I believe on October 14 at four days
15 of age. At that time he was observed to have,
16 intermittent duskiness, I think is the term. Is
17 that something just short of cyanosis?

18 A. Yes.

19 Q. A short of a grayness before
20 you get to blueness?

21 A. Yes, that is a good description.

22 Q. On the 15th of October he
23 underwent cardiac catheterization. I take it the
24 findings that you have described were disclosed at
25 that time - were made at that time?

A. Yes.



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Q. And the next day he underwent surgery, and you have not pointed out the surgical step that was taken there. That was a Blalock-Taussig shunt, I believe. Would you just point out to us on the diagram what was done and what was hoped to be achieved by it?

A. I am just looking to see the catheterization report because it does have some bearing here.



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Q. Page 65, doctor.

A. Thank you.

It gives the arterial oxygen saturation on page 66, which is the clue as to how much blood is going through the lungs; it is 70 per cent, which is --

Q. Substantially reduced.

A. Which is substantially reduced. The Blalock-Taussig shunt, which is an operation in which the artery going to the left arm, in this case, is transected and tied in its distal part going to the arm and the proximal part of the artery is brought down and anastomosed to the left pulmonary artery. In this way, blood that is not having great ease in getting out here can be siphoned off, at least in part, to, relatively speaking, bypass that obstruction. And this anastomosis should help in improving the colour and the oxygen saturation.

Q. Thank you.

The baby apparently tolerated the catheterization reasonably well, did he not, and went to the ICU?

A. Yes.

Q. And he apparently did well there, an uneventful night, and the next day went to



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Ward 4A.

A. Yes.

The only event of any note there was that he was found to have a positive blood culture report, but he certainly went through this procedure very well.

Q. What is the significance of the positive blood culture?

A. I think that was taken on the 17th of October - I'm not sure when the blood was taken - and that, I think, may have been a bit of a surprise.

Q. He was on the ward by the 17th?

A. Yes.

Q. He went to the ward on the 17th?

A. He had -- maybe he had some --

Q. Yes. There is a note on page 28 of the chart, doctor, in the ICU Transfer Note for the 17th of October, a note at the bottom:

"NB. Blood culture report from 14/10 gm positive bacilli."
Blood had been taken on the 14th,



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the day of his admission --

A. Yes.

Q. -- and apparently was
reported back on the 17th.

A. I can't see anything, at
least I can't see at the moment any reason as to why
he had that blood culture taken.

Q. In any event, he did, and
the results were reported back on the 17th.

Please, what is the significance
of the report gram positive bacilli in that culture?

A. Well, it suggests there is
an infection in the blood, but it may be a contaminant.
I would have to study that a little further to see.
I don't know.

Q. Notwithstanding that,
however, he was transferred from the ICU to the ward,
was he not, on the 17th?

A. Yes.

Q. And admitted to Ward 4A?

A. Yes.

Q. And it was there that he
began to run into some problem, wasn't it? October
17th, his respiratory rate is noted as having increased.
October 18, page 31 of the chart:



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At page 30:

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"Fast respirations, shallow breathing, slightly laboured, at times mainly abdominal breathing, some tachycardia recorded."

"Heart rate to 160. His lungs sounded wet."

Lasix was administered and dosage of digoxin was ordered, as appears on page 73 of the chart.

On the 19th, the problems seemed to continue; fast breathing, fast heart rate, and initially lasix and digoxin doses are ordered.

On the 19th, digitalizing doses of digoxin are ordered, at page 74 of the chart, doctor?

A. Yes. I think, at this stage, the baby was showing signs of heart failure and I think they had a discussion with the Resident Physician, who was Dr. Izukawa, about that and he suggested the increase in the dose of digoxin because I think they just started off with daily maintenance doses.

Q. It looks like a maintenance dose.

A. Which is the way you often



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will start to give digoxin to individuals who are in mild failure but in whom you have got some time to manoeuvre and, therefore, you could allow them a few days to get the concentrations up of blood and tissues.

Q. So, by the time the 19th rolled around, it was thought appropriate to digitalize this child, and the first digitalizing dose was ordered for six o'clock on the evening of the 19th, as I read the order on page 74.

A. Yes.

Q. But, unhappily, that didn't happen. About 4:15 in the afternoon, a Code 25 was called and, at page 35 of the chart, the symptoms manifested are set out. The nursing note on page 35 for the day of the 19th up to four o'clock in the afternoon:

"Taking feed very poorly. Apex 160/180. When upset, respiration 62/80, tugging..."

That is a term we have seen before, doctor. What does "tugging" mean in the context of respiration?

A. Really, having significant difficulty in getting air in.

Q. "...IV - went interstitial at 15.45, replaced. Colour - dusty."



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I take it that is something like

"dusky", is it?

A. Yes.

Q. And then:

"...at 16:15 hours (approximately)
while passing a No. 8N/G tube
to help supplement feeds, baby
went into seizure-like activity
and noted to have severe problems
breathing. A 23 was called at this
time for Dr. Lepszyc. While extend-
ing neck and giving AR..."

What is "AR", please, looking at page 35 of the
medical notes?

A. "Assisted respiration",

I would think.

Q. Assisted respiration, thank
you.

"...we noted the apex to be in a
very slow bradycardic rate of more
than 50. A 25 was called. The
baby was bagged and cardiac compres-
sion was started. See doctor's
notes for further explanation."
That is Nurse Trayner's note.



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That again appears to have been
a sudden onset of these things, does it not?

A. Yes.

Q. The doctor's note, I take
it, is on the opposite page. Oh, I'm sorry, it
begins on page 32:

"19.10.80, 25 called 16:15. Complex
heart."

He records the anatomy of the heart according to
the chart:

"Baby has been doing poorly..."

THE COMMISSIONER: Mr. Lamek, I am
having some page trouble. 36, what is it? What are
the first words on page 36?

MR. LAMEK: On page 36, the first
word is -- that is page 36 of my copy. It has the
emblem of the Hospital and it is "Supportive Consulta-
tion".

THE COMMISSIONER: The first working
word, "five-day old..."?

MR. LAMEK: Yes.

THE COMMISSIONER: It doesn't come
out as 36?

MR. LAMEK: The number fell off
the page but that is, indeed, page 36, Mr. Commissioner.



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THE COMMISSIONER: Thank you.

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MR. LAMEK: Q. May I ask you,
please, sir, to turn to page 32, which is where the
arrest note is written by the Resident.

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A. Yes.

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Q. It records a Code 25 at
4:15 and, a little lower:

8

"Baby has been doing poorly for..."

9

What is that? "approximately 24 hours"?

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A. Yes.

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Q. And it goes on to record
what was done:

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"...external cardiac massage,
incubated...."

13

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and so on.

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Then, perhaps a little less than
half-way through the note:

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"Baby has an extremely irritable
myocardium with sinus bradycardia ..."

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is that?

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A. Yes.

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Q. "...to ventricular fibula-
tion on at least seven occasions,

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D.C...."

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Is that defibrillation?

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A. That is defibrillation.

Q. "...produced sinus bradycardia and asystole which were repeated unresponsive to..."

To something and adrenalin.

What is that, atropin?

A. Atropin, I think.

Q. "...atropin, adrenalin and isuprel, bicarb. and calcium glucomate."

And, eventually, the resuscitation efforts stopped and the baby is dead.

Page 33 records all the drugs and administrations to the child in the course of the resuscitation attempt. There is a note in the lower half of page 34 dated 19.10.80:

"Noted to be tachypnoeic and in failure 18.10.80. Heart size perhaps slightly enlarged in size on X-ray, but evidence of increased flow in left lung quite clear and venous congestion. Started 18.10.80 on maintenance digoxin but suggested full digitalization in next 24 hours at calculated total dose of 0.05 mg



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rhythm"?

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A. Junctional rhythm is a rhythm of the heart which, instead of starting way up at the top of the sinus node, as we talked about earlier on, begins at the relay station between the atria and the ventricles, the atria. ventricle node near that point, it is a non-sinus rhythm.

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Q. A non-sinus rhythm.

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A. But it is a regular rhythm.

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It is just that the pacemaker, the regular pacemaker at the top of the heart, is not working and some auxiliary pacemaker near the junction, or the AV node, as it is called.

Q. Now, doctor, in terms of the description of symptoms and the course of the symptoms and events, that appears, does it not, to be similar to the course of events that we have seen in a number of other charts?

A. Yes.



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Q. But this child had apparently been deteriorating gradually over a period of 24 to 48 hours, had he not?

A. Yes, I would say 48 hours at the most.

Q. Now, for the purposes of the meeting of January 12th you rated Antonio Adamo's death as unexpected. Can you tell me why please?

A. Well, he was in the category of a patient that we would have hoped to be able to shepherd through this probably straightforward operation, even though that operation - when that operation has to be done at a very young age, it of course has a higher risk than later on, the risk of death from an operation of that sort in a two year old or a year old baby would be really very low. In the first week or two of life it is much higher.

But still, despite that and despite the fact he had dextrocardia in a more complicated arrangement, therefore, a good number of reservations have to be advanced for that group. One would have expected him to do quite well. It was a bit surprising that he went into heart failure after such a shunt.

Q. After a what?



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A. After such a shunt operation.

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Q. Yes.

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A. It is not usual to go into considerable heart failure after that. So, I think that that was the condition surrounding the question for him.

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Q. Doctor, the parents in this case refused permission for an autopsy?

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A. Yes, they did.

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Q. To what, Doctor, when you considered this death, did you ascribe it?

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A. I think that it was felt to be death from congestive failure. Of course, we would have had a little more help if we had been able to get an autopsy.

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Q. Yes.

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A. But still I think that was the understanding of Dr. Izukawa, although, obviously it depends upon the degree of failure that he thought was there. But that was my impression, that he was satisfied that it was that, and I think that looking at that picture I would have to agree.

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Q. I take it, Doctor, that it is your view from what you have said that the nature of the terminal events that we have seen and their

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course are consistent with his clinical condition and his anatomical condition?

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A. Yes, and heart failure, yes.

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Q. Well, include that in his clinical condition?

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A. Yes.

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Q. The clinical assessment that was made of the heart failure, is it not?

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A. Yes.

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Q. Again, I have to say to you, is the nature of the terminal events and critical symptoms, their onset and their course, consistent with digoxin intoxication ?

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A. Yes.

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Q. I confess, Doctor, it was with respect to this child, because of the period of decline that had preceded those events, that I propose to ask you the questions I asked earlier, as to just what that meant. I understand you to be saying that these events are consistent with digoxin intoxication but not necessarily indicative of it, is that fair?

A. That's correct.

Q. Okay. And in considering the death of this child, did the possibility of digoxin



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2 intoxication occur to you as a possible factor
3 contributing to or causing his death?

4 A. No, I don't believe so.

5 Q. Did any other cardiologist
6 or Cardiac Fellow to your recollection raise any
7 question with respect to possible involvement of
8 digoxin in this death?

9 A. Not that I am aware of.

10 Q. Thank you.

11 Mr. Commissioner, I would be moving on
12 to another case but it is almost 20 to 5. Is that
13 an essential time to stop for the day?

14 THE COMMISSIONER: All right, until
15 10 o'clock then until tomorrow. How does it look to
16 you?

17 MR. LAMEK: I am hopeful we'll be
18 through.

19 THE COMMISSIONER: Yes, all right,
20 10 o'clock.

21 MR. LAMEK: Oh, I wonder if we can
22 just do one thing, Mr. Commissioner. Perhaps we can
23 mark two charts that have not yet been marked.

24 THE COMMISSIONER: All right.

25 MR. LAMEK: So Counsel can have copies.
We shall need to deal with these three



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2 deaths, Doctor, before we can complete the 1980 year,
3 as it were. I am showing you, to my dismay, two
4 volumes of what I understand to be the Hospital's
5 record of Baby Volk. I wonder if you can help me
6 there. You could also help us by telling us we need
7 only to concentrate on one of them and I would be
very grateful.

8 A. That's right, that is Part
9 1 of Francis Volk.

10 Q. Thank you.

11 A. And this is part 2, which
12 looks to have most of the information that you may need.

13 Q. That was my impression of
14 it. May those two volumes be the next exhibit, Mr.
Commissioner, please.

15 THE COMMISSIONER: Which child is
16 this?

17 MR. LAMEK: Volk, V-o-l-k. Perhaps
18 that will be the next exhibit with an A suffix for
19 Volume 1 and then the same exhibit with a B suffix
20 for Volume 2.

21 THE COMMISSIONER: Exhibit 77.

22 ---EXHIBIT NO. 77A: Medical records of Francis Volk
(Volume 1).

23 ---EXHIBIT NO. 77B: Medical records of Francis Volk,
(Volume 2).

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2 MR. LAMEK: Q. All right. And
3 next, Dr. Rowe, I am showing you what I think to be
4 a copy of the Hospital records for Stephanie
5 Lombardo. Could you help us with that one, please.

6 A. That's the record that I
7 see of Stephanie Lombardo.

8 MR. LAMEK: And while I'm marking
9 that one perhaps you could look at the record for
10 Jesse Belanger and so identify that, please.

11 THE COMMISSIONER: Stephanie Lombardo
12 will be 78.

13 ---EXHIBIT NO. 78: Medical records of Stephanie
14 Lombardo.

15 THE WITNESS: That is the record of
16 Jesse Belanger.

17 ---EXHIBIT NO. 79: Medical records of Jesse Belanger.
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MR. LAMEK: Mr. Commissioner, I have copies of those for counsel to gladden their evening eyes.

THE COMMISSIONER: Yes, all right, thank you.

MR. LAMEK: Thanks, Dr. Rowe.

THE COMMISSIONER: And is that all of the ones that you will be dealing with for 1980, the deaths?

MR. LAMEK: I believe so, yes.

THE COMMISSIONER: You don't need to answer this question, but I take it that the ones you are not dealing with are in Paragraph 71 of the Statement of Facts because they are presumably non-suspicious deaths?

MR. LAMEK: No, not so, Mr. Commissioner. Dealing with children who died anywhere other than on the ward.

THE COMMISSIONER: I see.

MR. LAMEK: With two exceptions and those will be the Pacsai child who died in the ICU within a matter of a few hours after leaving the ward.

THE COMMISSIONER: Yes, he's in 1981?

MR. LAMEK: That's right, and then Gittens who also died in the ICU shortly after leaving



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the ward, but I'm afraid I don't have his chart yet
anyway.

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THE COMMISSIONER: He is also -
Gittens is what year, when did he die?

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MR. LAMEK: I believe in 1980 but I
don't have his chart.

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THE WITNESS: Gittens died October '80,
14th of October.

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THE COMMISSIONER: This will cover
though all the children who died in the ward in 1980?

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MR. LAMEK: Yes, that's right. Well,
from July the 1st.

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THE COMMISSIONER: From July the 1st.
Well now, will that cover all of the children who
died on the ward or would that exclude some who are
accepted by all to have died of natural deaths?

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MR. LAMEK: No, it doesn't exclude
those, Mr. Commissioner.

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THE COMMISSIONER: All right.

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MR. LAMEK: I concede perhaps boldly
that that is a determination that you have to make.

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THE COMMISSIONER: No, no, that's
all right, but that will be all of us. But what about
looking at Paragraph 71. I see several names that
you don't seem to have included and since I don't

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remember David Jenkinson or Nancy Falcao, but I take
it they did not die on the ward?

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MR. LAMEK: That's my understanding.

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They died either in the Operating Room or in the ICU
having been in the Operating Room and unless there
be something compelling by way of evidence to the
contrary, I would not propose to lead evidence as to
the deaths of those children, Mr. Commissioner, in
light of the Terms of Reference.

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THE COMMISSIONER: Yes, all right,

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thank you.

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MR. LAMEK: May I just that the

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consequence of that will be that the number of 46,
which has been in the press for some considerable time
since the police made a press release, months and
months ago, in effect, will be reduced for the
purposes of this Commission on the evidence that I
propose to lead to approximately 36, because of the
46, 9 or 10 were the deaths of children who died not
in the wards but in the Operating Room or in the ICU
after having been on the wards, after having been
in the OR.

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THE COMMISSIONER: Yes. But that 36

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takes us up to the end of March.

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MR. LAMEK: That's right. Indeed,

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Mr. Commissioner, it was Dr. Bryson's 34, you
remember, on-ward deaths plus Pacsai and Gittens,
who died shortly after leaving the ward.

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THE COMMISSIONER: Well, subject to
change, I take it that those 36 will be the only
deaths that we will be considering?

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MR. LAMEK: That's my present
intention, Mr. Commissioner.

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THE COMMISSIONER: Yes, all right,
thank you, 10 o'clock tomorrow morning.

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MR. LAMEK: Thank you, sir.

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--- Whereupon the Hearing adjourned until
Wednesday, July 20th, 1983, at 10:00 a.m.

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